

Manual
of
Botanic Terms

M. C. Cooke.

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A MANUAL
OF
BOTANIC TERMS.

BY M. C. COOKE,
AUTHOR OF "A MANUAL OF STRUCTURAL BOTANY," ETC.



WITH ILLUSTRATIONS.

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PREFACE.



THE production of another work of this character whilst one or two already existed, may at first appear to be presumptuous, or, at the best, unnecessary. Without attempting to detract from the labours of my predecessors, I think that the present will be found to possess advantages for those who have not had the benefit of a classical education. The Terms are written in their Anglicised forms, under which they are commonly employed; and the derivations are recovered from the mysticism of a Greek alphabet. Both these innovations, it is confidently hoped, will commend the work to such of the operative classes as are cultivating the study of BOTANY. In the following pages will be found a complete Glossary of all the technicalities of the science in present use. Such only have been excluded as are either obsolete, or, not being special, may be found

in any good dictionary. The numbers interspersed through the letter-press refer to the illustrations at the end. The advantages accruing from the collection of the Woodcuts, under approximate headings, will, it is believed, more than compensate for their omission in the body of the work.

M. C. C.

TWICKENHAM ECONOMIC MUSEUM,
February, 1862.

A MANUAL OF BOTANIC TERMS.

- ABERRANT** (*ab*, Lat. from ; *erro*, I wander), differing from the customary structure of related groups.
- ABNORMAL** (*ab*, Lat. from ; *norma*, law), deviating from the natural condition.
- ABORTION** (*aborto*, Lat. I miscarry), non-formation or incomplete formation of a part.
- ABRUPT** (*ab*, Lat. from ; *rumpo*, I break), terminating suddenly.
- ABRUPTLY-PINNATE**, a pinnate leaf terminating with a pair of leaflets (115, 116).
- ACAULESCENT** (*a*, Lat. without ; *caulis*, a stem), with a very short stem, apparently none.
- ACCRESCENT** (*ad*, Lat. to ; *cresco*, I grow), growing larger after flowering.
- ACCUMBENT** (*ad*, Lat. to ; *cubo*, I lie down), lying against another body (254).
- ACEPHALOUS** (*a*, Gr. without ; *kephalē*, a head), when the style does not surmount the ovary, but is lateral.
- ACEROSE** (*acus*, Lat. a needle), needle-shaped, as pine leaves (103).
- ACETABULIFORM** (*acetabulum*, Lat. a cup), shaped like a cup (267).

ACHÆNIUM (*a*, Gr. not; *chaino*, I open), small indehiscent monospermous fruit, with the seed free in the interior (231).

ACHLAMYDEOUS (*a*, Gr. without; *chlamus*, a coat), without floral envelopes.

ACICULAR (*acus*, Lat. a needle), needle-shaped (79).
(See ACEROSE.)

ACINACIFORM (*acinaces*, Lat. a scymetar), scymetar-shaped (88).

ACOTYLEDONOUS (*a*, Gr. without; *kotyledon*, a seed-leaf), without cotyledons.

ACROGEN (*akros*, Gr. the summit; *gennao*, I produce), increasing at the summit, applied to ferns, &c. (38).

ACROGENOUS (*akros*, Gr. summit; *gennao*, I produce), when applied to fungi, attached to the tips of threads.

ACROSPIRE (*akros*, Gr. summit; *speira*, a cord), the first sprouting leaves of corn.

ACTINENCHYMA (*aktin*, Gr. a ray; *cheuma*, tissue), the cellular tissue of medullary rays, stellate cellular tissue (8).

ACULEATE (*aculeus*, Lat. a prickle), armed with prickles.

ACUMINATE (*acumen*, Lat. a point), tapering to a point (127).

ACUTE (*acutus*, Lat. sharp), sharp-pointed.

ADHERENT (*ad*, Lat. to; *hæreo*, I stick), sticking to, or grown to, another body.

ADNATE (*adnascor*, Lat. I grow to), grown to another

portion by the whole surface, attached to the stem (186 *c*).

ADNEXED (*ad*, Lat. to; *necto*, I join), just reaching the stem; applied to the gills of Agarics (275).

ADRESSED (*ad*, Lat. to; *pressus*, pressed), in close contact, but not adherent.

ADVENTITIOUS (*ad*, Lat. to; *venio*, I come), developed in an unusual position.

ADVERSE (*ad*, Lat. towards; *verto*, I turn), opposite.

ÆQUILATERAL (*æquus*, Lat. equal; *lateralis*, belonging to a side), equal-sided (82).

ÆROPHYTES (*aër*, Gr. air; *phuton*, plant), plants growing entirely in the air.

ÆSTIVATION (*æstivum*, Lat. summer), the manner of folding in flower-buds.

AGGLOMERATE (*agglomero*, Lat. I crowd together), heaped up, or crowded together (229).

AGGLUTINATE (*agglutino*, Lat. I glue), glued together.

AGGREGATE (*aggrego*, Lat. I assemble), collected together (237). (*See* AGGLOMERATE.)

ALA (Lat. a wing), a lateral petal of a papilionaceous flower (181 *a*).

ALABASTRUS (Lat. rose-bud), applied to a flower-bud.

ALATE-PINNATE (*ala*, Lat. a wing), pinnate leaf, with a winged petiole.

ALBUMEN (Lat. the white of an egg), a substance found in many seeds, surrounding the embryo.

ALBUMINOUS (*albumen*, Lat. white of an egg), furnished with albumen.

ALBURNUM (Lat. sapwood), white, or sap, wood of a tree.

ALGOLOGY (*alga*, Lat. a sea-weed), that branch of botany which treats of algæ, or sea-weeds.

ALLIACEOUS (*allium*, Lat. garlic), pertaining to the *allium*, or garlic family ; smelling like garlic.

ALTERNATE (*alternus*, Lat. one after another), two organs so placed as not to be opposite each other (106).

ALTERNATELY-PINNATE, when the leaflets of a pinnate leaf are alternately inserted on the petiole (106).

ALTERNATIVE (*alternus*, Lat. one after another), in æstivation, where the inner whorl alternates with the outer (159).

ALVEOLATE (*alveolus*, Lat. a hollow vessel), socketed or honeycombed.

AMENTUM (Lat. a thong), a deciduous spike or catkin.

AMNIOS (*amnios*, Gr. a foetal membrane), fluid of the rudimentary embryo-sac.

AMORPHOUS (*a*, Gr. without ; *morphe*, form), without definite form.

AMPHICARPOUS (*ampho*, Gr. both ; *karpos*, fruit), possessing two kinds of fruit.

AMPHIGASTRIA (*amphi*, Gr. about ; *gaster*, the belly), scale-like stipules of mosses.

AMPHIGENOUS (*amphi*, Gr. about ; *gennao*, I produce), applied to fungi when the hymenium is not restricted to a particular surface.

AMPHISARCA (*ampho*, Gr. both ; *sarx*, flesh), a com-

pound, many-celled, superior fruit, with a woody or indurated shell inclosing an internal pulp.

AMPHITROPAL (*amphi*, Gr. about; *trepo*, I turn), applied to an embryo curved so that both ends are brought together.

AMPLEXICAUL (*amplector*, Lat. I embrace; *caulis*, a stem), embracing the stem (120).

AMPLEXUS (Lat. a surrounding), in veneration, used synonymously with *Equitant* (61).

AMPULLACEOUS (*ampulla*, Lat. a vessel), resembling a bladder or flask.

AMYLACEOUS (*amulon*, Gr. flour), starch-like.

ANALOGY (*ana*, Gr. according to; *logos*, definition), resemblance of form, but not of function.

ANANTHERUM (*ana*, Gr. without; *anēr*, a man), filaments without anthers.

ANASTOMOSE (*anastomosis*, Gr.), passing of one vein into another, by means of branches (17).

ANATROPAL (*ana*, Gr. over; *trepo*, I turn), an ovule turned down with the foramen to the hilum (207).

ANCIPITAL (*anceps*, Lat. two-edged), two-edged and flattened (41).

ANDRŒCEUM (*anēr*, Gr. a man), the male organs of a flower.

ANDROGYNOUS (*anēr*, a man; *gunē*, a woman), having an inflorescence of male and female flowers.

ANDROPHORUM (*anēr*, Gr. a man; *phero*, I bear), tube formed by united filaments around the pistil.

ANFRACTUOSE (*anfractus*, Lat. a turning), presenting sinuosities (192).

ANGIENCHYMA (*aggos*, Gr. a vessel; *cheuma*, tissue), a term applied to vascular tissue (12).

* ANGIOCARPOUS (*aggeion*, Gr. a vessel; *karpos*, fruit), having the fruit covered by an envelope or cupule (273).

ANGIOSPERMOUS (*sperma*, Gr. a seed), with the seeds inclosed in an ovary.

ANGULAR (*angulus*, Lat. an angle), with projecting angles.

ANISOMEROUS (*anisos*, Gr. unequal; *meros*, a part), the same as *unsymmetrical*.

ANISOSTAMENOUS (*stēmon*, Gr. a stamen), when the stamens are not of the same number as the petals.

ANNUAL (*annuus*, Lat. yearly), lasting but one year.

ANNULAR (*annulus*, Lat. a ring), having the form of a ring (9 b).

ANNULATE (*annulus*, Lat. a ring), ringed, or with the appearance of rings (31).

ANNULUS (Lat. a ring), the ring round the theca of ferns, the peristome of mosses, or stipe of agarics (287 2).

ANOMALOUS (*α*, Gr. not; *omalos*, equal), contrary to rule.

ANTERIOR (*ante*, Lat. before), placed in front, or outwards.

ANTHER (*antheros*, Gr. belonging to a flower), the pollen-cases of plants (186).

ANTHERIDIA (*antheros*, Gr. an anther; *oidos*, resemblance), certain organs in cryptogamic plants analogous to anthers.

ANTHERIFEROUS (*fero*, Lat. I bear), bearing anthers.

ANTHESIS (*anthēsis*, Gr. flower-opening), the period of opening of flowers.

ANTHOCARPOUS (*karpos*, Gr. fruit), bearing a fruit resulting from many flowers.

ANTHODIUM (*anthos*, Gr. a flower), the flowering head of composites (154). (See CAPITULUM.)

ANTHOTAXIS (*taxis*, Gr. order), the arrangement of flowers on an inflorescence.

ANTITROPAL (*anti*, Gr. opposite; *trepo*, I turn) (205). (See ORTHOTROPAL.)

APETALOUS (*a*, Gr. without; *petalon*, a petal), without petals.

APEX (Lat. the top), the opposite extremity to the point of attachment.

APICULATE (*apex*, Lat. a point), ending with a little point (126).

APOCARPOUS (*apo*, Gr. apart; *karpos*, fruit), not having the carpels united (216).

APOPHYSIS (*apophuo*, I spring from), any irregular swelling; inflation of seta below the theca of mosses.

APOTHECIA (*apothekē*, Gr. a repository), the shields of lichens bearing the spores (273, 274).

APPENDAGES (*appendo*, Lat. I hang up), a part super-added to another, as hairs to leaves, &c.

APPENDICULATE (*appendo*, Lat. I hang up), having appendages.

APPOSITE (*appositus*, Lat. placed near), placed side by side.

APPRESSED. (*See* ADRESSED.)

APPROXIMATE (*ad*, Lat. to; *proximo*, I approach), close together, but not united.

APTEROUS (*a*, Gr. without; *pteron*, a wing), without wings.

ARACHNOID (*arachnēs*, Gr. a spider), cobweb-like in structure or appearance.

ARBORESCENT (*arbor*, Lat. a tree), growing into a tree.

ARCHEGONIUM (*archos*, Gr. chief, primary; *gunē*, a female) early condition of a spore-case.

ARCUATE (*arcuo*, Lat. I bend like a bow), curved like a bow.

ARCUATE-AREOLATE (*arcuo*, Lat. I bend), divided into spaces by curves.

ARDELLÆ (*ardo*, Gr. to sprinkle), dust-like, small apothecia (271*a*) of such lichens as *Arthonia* (271*b* *sect. mag.*).

AREOLATE (*areola*, Lat. a little bed), divided into spaces, often angular.

AREOLUS (*areola*, Lat. a little bed), the tessellated spaces in the thallus of some lichens.

ARIL (*arillus*, Lat. a wrapper), an extension of the placentæ encompassing the seed, as the mace of the nutmeg (248).

ARILLATE (*arillus*, Lat. a wrapper), possessed of an aril.

ARILLODE (*arillus*, Lat. a wrapper), a false aril.

ARISTA (Lat. an awn), the beard of corn.

ARISTATE (*arista*, Lat. the beard of corn), having a beard or awn.

AROMATIC (*aroma*, Lat. sweet spice), having a spicy taste or smell.

ARTICULATE (*articulus*, Lat. a joint), jointed, separating freely.

ASCENDING (*ascendens*, Lat. ascending), directed upwards (212).

ASCI (*askos*, Gr. a leather bottle), spore-cases; imbedded tubular cells containing sporules.

ASCIDIA (*askidion*, Gr. a small bottle), spore-cases of certain fungi.

ASCIDIUM (*askidion*, Gr. a small bottle), a pitcher-like leaf modification (132).

ASCOSPORE (*askos*, Gr. a bag; *spora*, a seed), spores borne within asci.

ASTOMOUS (*a*, Gr. without; *stoma*, a mouth), without aperture.

ATRACTENCHYMA (*atraktos*, Gr. a spindle; *cheuma*, tissue), fusiform or spindle-shaped cells. (See PROSENCHYMA.)

ATROPAL (*a*, Gr. not; *trepo*, I turn), an ovule in its original erect position (205).

ATTENUATE (*attenuo*, Lat. I diminish), tapering gradually to a point.

AURICLES (*auricula*, Lat. an ear), ear-like appendages.

AURICULATE (*auricula*, Lat. an ear), having a pair of lobes or ears (94).

AWN (see **ARISTA**), the beard of corn.

AWNED (see **ARISTATE**), having an awn or beard.

AXIL (*axilla*, Lat. the armpit), the angle between the axis and any part produced from it.

AXILE (*axis*, Lat. an axle-tree), belonging to the axis.

AXILLARY (*axis*, Lat. an axle-tree), growing in the axils.

AXIS (Lat. an axle-tree), the centre of growth; the stem and root.

AXIS, ASCENDING, the stem.

AXIS, DESCENDING, the root.

B.

BACCA (Lat. a berry), an indehiscent pulpy fruit resulting from an inferior ovary (223).

BACCATE (*bacca*, Lat. a berry), berry-like or pulpy.

BACILLI (*bacillum*, Lat. a stick), the narrow plates of diatoms.

BALAUSTA (*balaustion*, Gr. pomegranate-flower), the fruit of the pomegranate (231).

BARBS (*barba*, Lat. a beard), double-hooked hairs (48).

BARBULA (Lat. a little beard), the inner teeth of the peristome of mosses.

BARK. The integument of the stems of exogens.

BASAL, BASILAR (*basis*, Lat. the base), growing at the base (204).

BASIDIA (Lat. a little pedestal), cellular processes in fungi bearing spores (281 *b*).

BASIDIOSPORE (*basidia*, Lat. a little pedestal), a spore borne upon a basidia.

BEAKED, ending in a long sharp angle.

BELL-SHAPED. (*See* CAMPANULATE.)

BERRIED. (*See* BACCATE.)

BI-ACUMINATE (*bis*, Lat. twice; *acuminatus*, Lat. pointed), two-pointed, with the points diverging.

BI-ARTICULATE (*articulatus*, jointed), two-jointed.

BI-CARINATE (*carina*, Lat. a keel), two-keeled.

BI-CONJUGATE (*conjungo*, Lat. I join together), two secondary petioles, each with a pair of leaflets (113).

BI-CORNUTE (*cornu*, Lat. a horn), with two horn-like processes (247).

BI-DENTATE (*dentatus*, Lat. toothed), with two teeth.

BIENNIAL (*biennis*, Lat. of two years' continuance), growing one year, flowering and fruiting the succeeding.

BIFID (*findo*, Lat. I divide), split in two half-way down (96).

BI-FOLIATE (*foliatus*, Lat. leafed), compound leaves with two leaflets (112).

BI-FOLLICULAR (*folliculus*, Lat. a little bag), with a double follicle.

BIFORINES (*biforis*, Lat. having a double door), oblong raphidian cells with an opening at each end.

BI-FURCATE (*furca*, Lat. a fork), doubly forked.

BI-JUGATE (*bijugus*, Lat. coupled), a compound leaf, with two pairs of leaflets (114).

BI-LABIATE (*labium*, Lat. a lip), two-lipped.

BI-LAMELLATE (*lamella*, Lat. a thin plate), formed of two plates.

BI-LOBATE (*loba*, Lat. a lobe), two-lobed (96).

BINATE (*binus*, by couples), in pairs.

BI-PALEOLATE (*palea*, Lat. chaff), with two paleæ, or scales.

BI-PARTITE (*pars*, Lat. a part), divided in two nearly to the base.

BI-PINNATE (*pinna*, Lat. a feather), doubly pinnate (116, 117).

BI-PINNATIFID (*pinna*, Lat. a feather ; *findo*, I divide), doubly pinnatifid.

BI-PLICATE (*plico*, Lat. I fold), with two folds or plaits.

BI-POROSE (*porus*, Lat. a pore), opening by two pores.

BI-SEPTATE (*septum*, Lat. a partition), with two partitions.

BI-SERIAL (*series*, Lat. an order), arranged in two parallel rows.

BI-SERRATE (*serratus*, Lat. sawed), serratures again serrated (72).

BI-TERNATE (*ternus*, Lat. three and three together), a compound leaf divided into three, each division bearing three leaflets (111).

BITTEN. (See EROSE.)

BI-VITTATE (*vitta*, Lat. a canal), having two canals, or vittæ.

BLADDERY, inflated.

BLADE. (See LAMINA.)

BLASTEMA (*blastanō*, Gr. I germinate), the axis of an embryo.

BOAT-SHAPED, resembling a little boat.

BOSSED. (See UMBONATE.)

BOTHRENCHYMA (*bothros*, Gr. a pit ; *cheuma*, tissue), pitted, dotted, or porous tissue (5).

BRACHIATE (*brachium*, Lat. the arm), opposite branches alternating at right angles.

BRACTEATE (*bractea*, Lat. a thin leaf), with bracts.

BRACTEOLES (*bracteola*, diminutive of *bractea*), secondary bracts, between the true bracts and the flowers.

BRACTS (*bractea*, Lat. a thin leaf), leaves generally modified in form, at the base of the flower-stalk.

BRANCHES, divisions of the axis.

BRISTLE-POINTED, terminating in a bristle.

BRISTLES, stiff pointed hairs.

BRISTLY, covered with stiff-pointed hairs.

BRYOLOGY (*bruon*, Gr. moss ; *logos*, a discourse), the division of botany relating to mosses.

BUD, elementary folded leaves or flowers.

BULB (*bulbus*, Lat. a bulb), modified leaf-bud, with fleshy scales generally upon, or partly immersed in the soil (64).

BULB, TUNICATED, a bulb with thin membranaceous scales, forming successive coats.

BULBILS (diminutive of *bulbus*), small axillary bulbs (63).

BULBOSE (*bulbus*, Lat. a bulb), with the structure of a bulb.

BULLATE (*bulla*, Lat. a bubble), blistered or puckered, as the leaf of a Savoy cabbage.

BURSICULATE (*bursa*, Lat. a purse), purse-like.

BYSSACEOUS (*byssus*, Lat. fine flax), consisting of fine entangled threads.

BYSSOID (*byssus*, Lat. fine flax), resembling fine matted threads.

BYSSUS (Lat. fine flax), the thread-like stipes of some fungi.

C.

CADUCOUS (*caducus*, Lat. ready to fall), dropping off.

CÆSPITOSE (*cæspes*, Lat. turf), growing in tufts.

CALCARATE (*calcar*, Lat. a spur), spurred (163).

CALCEOLATE (*calceolus*, Lat. a little shoe), having the form of a slipper (176).

CALYCIFLORAL (*calyx*, Lat. a flower-cup; *flora*, a flower), having the petals and stamens inserted in the throat of the calyx.

CALYCINE (*kalux*, Gr. the cup of a flower), belonging to a calyx.

CALYCOID (*kalux*, Gr. a flower-cup; *eidos*, appearance), resembling a calyx.

CALYCVLUS (Lat. a little bud), a partial involucre; an involucre containing but one or two flowers.

CALYPTRA (*kaluptra*, Gr. a veil), the hood of a moss theca, &c. (284 2).

CALYPTRATE (*kaluptra*, Gr. a veil), hooded (165).

CALYX (*kalux*, Gr. the the cup of a flower), the external whorl of floral leaves.

CAMBIUM, the formative fluid found between the wood and bark of exogens in the spring.

CAMPANULATE (*campanula*, Lat. a little bell), bell-shaped (168).

- CAMPTOTROPAL (*kamptos*, Gr. curved; *trepo*, I turn), applied to curved ovules when each portion beyond the curve is of equal length (206).
- CAMPYLOSPERMOUS (*kampulos*, Gr. curved; *sperma*, a seed), having the albumen of the seed curved at the margin so as to form a longitudinal furrow.
- CAMPYLOTROPAL (*kampulos*, Gr. curved; *trepo*, I turn), when the ovule is so bent that the apex is brought to the hilum, but the two portions are of unequal length (208).
- CANALICULATE (*canalicula*, Lat. a little canal), channelled.
- CANCELLATE (*cancellatus*, Lat. latticed), with an appearance resembling lattice-work.
- CAP, the pileus of agarics (276 *p*). (See PILEUS.)
- CAPILLARY (*capillus*, Lat. a hair), thread-like.
- CAPILLITIUM (*capillitus*, Lat. like hair), the threads of puff-balls.
- CAPITATE (*caput*, Lat. a head), furnished with a globose head (44).
- CAPITULUM (Lat. a little head), the inflorescence of composite flowers (148), the globular-stalked apothecia of such lichens as *Cladonia* (267, 268).
- CAPRIFICATION (*caprificatio*, Lat. a husbanding of wild figs), the fertilization of the flowers of the fig, and other plants, by means of insects.
- CAPSULAR (*capsula*, Lat. a chest), relating to a capsule.
- CAPSULE (*capsula*, Lat. a chest), a dry dehiscent seed-vessel, or fruit (236).
- CAPSULIFEROUS (*capsula*, Lat. a chest; *fero*, I bear), bearing capsules.

CARBONIZED (*carbo*, Lat. coal), blackened so as to appear as if burnt.

CARCERULE (*carcer*, Lat. a gaol), a name given to a dry indehiscent fruit, with the carpels adherent around an axis, as in *Malva* (245).

CARCITHIUM, the mycelium of certain fungi.

CARINA (Lat. a keel), the lower petals of pea-flowers; parts having a keel-like shape (181 c).

CARIOPSIS (*karē*, Gr. a head; *opsis*, appearance), a dry one-seeded indehiscent fruit, with the endocarp adherent to the spermoderm.

CARIOUS (*cariosus*, Lat. rotten), decayed.

CARPEL (*karpōs*, Gr. a fruit), one of the modified leaves composing a pistil.

CARPELLARY (*karpōs*, Gr. a fruit), belonging to a carpel.

CARPOCLONIUM (*karpōs*, Gr. fruit), a free receptacle or spore-case in certain algæ (260). (See STICHIDIA.)

CARPOLOGY (*karpōs*, Gr. a fruit; *logos*, a discourse), that part of botany which treats of fruit structure.

CARPOPHORE (*karpōs*, Gr. a fruit; *phero*, I bear), a stalk elevating the fruit, or the ovary (225). (See GYNOPHORE.)

CARTILAGINOUS (*cartilago*, Lat. a tendon), hard and tough.

CARUNCULA (Lat. a little piece of flesh), a protuberance near the hilum of a seed.

CARUNCULATE (*caruncula*, Lat. a little piece of flesh), having a caruncula.

CARYOPHYLLACEOUS, a corolla with long-clawed petals.

CASSIDEOUS (*cassis*, Lat. a helmet), having a helmet-shaped sepal or petal (166).

CATENULATE (*catena*, Lat. a chain), strung together like the links of a chain.

CATKIN, a deciduous spike of unisexual flowers.

CAUDEX (Lat. the trunk), the axis of a plant.

CAUDICLE (*cauda*, Lat. a tail), the process which unites pollen masses to the stigma; distinct in Orchids.

CAULINE (*caulis*, Lat. a stalk), belonging to the stem.

CAULIS (Lat. a stalk), the stem.

CELL (*cella*, Lat. a cellar), each of the vesicles of which cellular tissue is composed; a cavity (1).

CELLULAR, composed of cells.

CELLULOSE (*cellula*, Lat. a little cellar), the material of which cell-walls are composed.

CENTRIFUGAL (*centrum*, Lat. a centre; *fugio*, I fly from), applied to inflorescence, in which the flowering commences at the summit or the centre.

CENTRIPETAL (*centrum*, Lat. a centre; *peto*, I seek), applied to an inflorescence, in which the flowering commences at the base or the circumference.

CERAMIDIUM, the pear-shaped capsules of some algæ (258).

CERATOSTOMÆ (*keras*, Gr. a horn; *stoma*, a mouth), perithecia with elongated necks.

CERCIDIUM, the mycelium of some fungi.

CERIFEROUS (*cera*, Lat. wax), wax-bearing or producing.

CHALAZA (Gr. a spot on the skin), in a seed, where the nucleus joins the integuments (215 c).

CHANNELLED, hollowed out like a gutter.

CHLOROPHYLL (*chloros*, Gr. green ; *phyllon*, a leaf), the green colouring matter of plants.

CHLOROSIS (*chloros*, Gr. green), a loss of colour.

CHORIZATION (*chorizo*, Gr. I separate). (See UNLINING.)

CHROMISM (*chroma*, Gr. a colour), an unnatural colouring of plants or leaves.

CHROMULE (*chroma*, Gr. colour), colouring matter of plants other than green.

CICATRICE (*cicatrix*, Lat. a scar), a scar, as of a fallen leaf.

CICATRICOSE (*cicatrix*, Lat. a scar), marked with scars or cicatrices.

CILIA (*cilium*, Lat. an eyelash), a marginal hair.

CILIATE (*cilium*, Lat. an eyelash), fringed with hairs (77).

CINCINNUS, applied to inflorescence, a cyme developed in a scorpioid manner (153).

CINENCHYMA (*kineo*, Gr. I move ; *cheuma*, tissue), the laticiferous tissue of plants (17).

CIRCINATE (*circino*, Lat. I turn round), curled, as the young fronds of ferns (51, 252).

CIRCUMSCISSILE (*circum*, Lat. around ; *scindo*, I cut), cut around transversely (237).

CIRCUMSCRIPTION (*circumscriptio*, Lat. a bounding), the outline of a leaf or other organ.

CIRRHIFORM (*cirrhus*, Lat. a curl), with a tendril-like shape.

CIRRHOSE, CIRRHIFEROUS (*cirrhus*, Lat. a curl), having tendrils.

CIRRHUS (Lat. a curl), a tendril (130).

CISTELLA (Lat. a casket), the capsular shield of some lichens.

CISTOME (*kistē*, Gr. a bag; *stoma*, a mouth), a funnel-shaped prolongation of the cuticle into the openings of the stomata.

CISTOPHORUM (*kistē*, Gr. a bag; *phero*, I bear), applied to the stipe of certain fungi.

CLADENCHYMA (*klados*, Gr. a branch; *cheuma*, tissue), branched cells, as in some hairs.

CLATHRATE (*clathrus*, Lat. a lattice), latticed.

CLAVATE (*clava*, Lat. a club), gradually thickened upwards (46).

CLAVULA (*clavula*, Lat. a little nail), the receptacle of certain fungi.

CLAW, the lengthened base of petals in some flowers (185). (See UNGUIS.)

CLESTINES, cells containing raphides (15).

CLINANDRIUM (*klinē*, Gr. a bed; *anēr*, a man), a cavity at the apex of the column in orchids, containing the anthers.

CLINANTHIUM (*klinē*, Gr. a bed; *anthos*, a flower), the receptacle of a capitulum.

CLOVES, small bulbs formed within the parent bulb.

CLUB-SHAPED. (See CLAVATE.)

CLYPEATE. (See SCUTATE.)

COCCODES (*kokkos*, Gr. a seed), spherical protuberances like pills.

COCCUS (*kokkos*, Gr. a seed), an elastically-dehiscing carpel.

COCHLEAR (*cochlearis*, Lat. belonging to a spoon), a form of æstivation in which one piece, being larger, covers all the others.

COCHLEARIFORM (*cochlearis*, Lat. belonging to a spoon), spoon-shaped.

COCHLEATE (*cochlea*, Lat. a snail-shell), twisted like a snail-shell (235).

CÆLOSPERM (*koilos*, Gr. hollow; *sperma*, a seed), a seed in which the albumen is curved, so that the base and apex approach.

CÆNANTHIUM. (See CLINANTHIUM.)

COLEORHIZA (*koleos*, Gr. a sheath; *rhiza*, a root), the sheath at the base of an endogenous embryo (257c).

COLLATERAL (*con*, Lat. together; *latus*, a side), side by side.

COLLENCHYMA, COLENCHYMA (*kolla*, Gr. glutinous; *cheuma*, tissue), cellular tissue of a cartilaginous or horny texture, which becomes glutinous when moistened.

COLLUM (Lat. a neck), point of union of radicle and plumule, or root and stem (256).

COLPENCHYMA (*kolpos*, Gr. a fold; *cheuma*, tissue), sinuous or waved cells (19).

COLUMELLA (Lat. a little pillar), the column in the centre of the theca of an urn moss.

COLUMELLA (Lat. a little pillar), the axis around which carpels are united (246).

COLUMN (*columna*, Lat. a pillar), consolidated stamens and style of orchids (188).

COLUMNAR (*columna*, Lat. a pillar), resembling a column.

COMA (Lat. a head of hair), hairs terminating certain seeds (164).

COMA (Lat. a head), bracts at the summit of a pineapple.

COMMISSURE (Lat. a knuckle-joint), the adhering faces of two carpels, as an Umbellifers.

COMOSE (*coma*, Lat. a head of hair), ending with hairs.

COMPLICATE (*con*, together; *plico*, I plait), folded up upon itself.

COMPRESSED (*compressus*, Lat. pressed together), flattened.

CONCATENATE (*con*, Lat. together; *catenatus*, chained), chained together.

CONCEPTACLE (*conceptaculum*, Lat. a receptacle), the thecæ of ferns (287); a double follicle.

CONDUPPLICATE (*conduplicatus*, Lat. doubled), in veneration, folded face to face (52).

CONE (*conus*, Lat. a cone), the scaly fruit of the fir (238).

CONENCHYMA (*konos*, Gr. a cone; *cheuma*, tissue), conical cellular tissue, as hairs, &c. (42).

CONFLUENT (*confluo*, Lat. I run together), gradually united.

CONGLOBATE (*conглоbo*, Lat. I gather into a ball), collected into a rounded form.

CONGLOMERATE (*conglomeratus*, Lat. heaped together), clustered together.

CONGLUTINATE (*conglutinated*, Lat. glued together), glued together in heaps.

CONICAL (*conus*, Lat. a cone), with the form of a geometric cone (23).

CONIDIA (*konis*, Gr. dust), dust-like secondary spores.

CONIOCYST (*konis*, Gr. dust; *kustis*, a bladder), spore-cases resembling tubercles, without openings.

CONJUGATE (*conjugo*, Lat. I couple together), paired (112).

CONNATE (*con*, Lat. together; *nascor*, I grow), when two leaves have their bases united. Any two parts, normally distinct, which become joined (123).

CONNECTIVE (*con*, Lat. together; *necto*, I bind), the intervening portion between the lobes of an anther (187).

CONNIVENT, having the points turned in (applied to petals or sepals).

CONOIDAL (*koneidēs*, Gr. formed like a cone), somewhat conical.

CONTINUOUS (*continuus*, Lat. without intermission), without joints or articulations.

CONTORTED (*contortus*, Lat. entangled), twisted. A form of æstivation (158).

CONTORTUPLICATE (*contortus*, Lat. entangled; *plico*, I fold), turned back on itself (253).

CONVOLUTE (*convolutus*, Lat. wrapped together)

rolled up. A form of vernation (54). Applied also to cotyledons (251).

CORALLIFORM, CORALLOID, resembling coral in form.

CORDATE (*cor*, Lat. the heart), heart-shaped—applied to leaves (91).

CORDATE-HASTATE	}	Between cordate and each of the others in form.
CORDATE-SAGITTATE		
CORDATE-OVATE		

CORIACEOUS (*corium*, Lat. leather), of a leathery consistency.

CORKY, with the texture of cork.

CORM (*kormus*, Gr. a stem), the swollen, succulent bulb-like base of certain stems (65).

CORNEOUS (*corneus*, Lat. horny), horny in texture.

CORNICULATE (*cornicula*, Lat. a little horn), having a horn-like appendage.

COROLLA (Lat. a little crown), the inner whorl of floral envelopes.

COROLLIFLORAL, having the petals and stamens inserted on the tube of the corolla.

CORONA (Lat. a crown), an appendage between the corolla and stamens, either cuplike or in rays (183).

CORONATE (*corona*, Lat. a crown), having a corona.

CORONULA (Lat. a little crown), small calyx-like bodies in *Chara*.

CORRUGATED (*corrugatus*, Lat. wrinkled), crumpled up without regularity.

CORTEX (Lat. rind or bark), the bark.

CORTICAL (*cortex*, Lat. the rind or bark), relating to the bark.

CORTINATE (*cortina*, Lat. a curtain), cobweb-like in texture.

CORYDALINE (from the generic name *Corydalis*), resembling the flower of *Corydalis*.

CORYMB (*korumbos*, Gr. the top), an inflorescence in which the pedicels originate at different heights on the axis, but elevate all the flowers to nearly the same level (144).

CORYMBOSE (*korumbos*, Gr. the top), resembling a corymb.

CORYNIDIA, processes containing spiral threads in ferns.

COSTA (Lat. a rib), the midrib.

COSTATE (*costa*, Lat. a rib), having a single rib; applied to leaves.

COTYLEDONS (*kotuledon*, Gr. a hollow vessel), rudimentary leaves of an embryo (256, *c*).

CRATERA (Lat. a goblet), a cup-shaped receptacle.

CRATERIFORM (*crater*, Lat. a goblet), concave or cup-shaped.

CREMOCARP (*kremao*, Gr. I hang; *karpos*, fruit), a fruit of two carpels, which, when ripe, separate and are suspended from a carpophore, as in Umbellifers (243).

CRENATE (*crena*, Lat. a notch), with convex teeth—applied to the margins of leaves (74).

CRENULATE (*crena*, Lat. a notch), synonymous with *crenate*.

CRESTED, having a ridge or crest.

CRIBROSE (*cribrum*, Lat. a sieve), pierced with small holes.

CRINITE (*crinis*, Lat. hair), bearded.

CRUCIATE (*crux*, Lat. a cross), arranged in the form of a cross (180).

CRUSTA (*crusta*, Lat. a piece of ice), the frosted appearance of the upper surface of the fronds of some lichens.

CRUSTACEOUS, having an appearance resembling hoar frost.

CRYPTOGAMIA (*krupto*, Gr. I hide; *gamos*, marriage), applied to all the lower orders of plants, or such as have no evident or true flowers.

CRYPTOSTOMATA (*krupto*, Gr. I hide; *stoma*, a mouth), circular nuclei on the surface of some algæ.

CUCULATE (*cucullus*, Lat. a hood), hooded.

CUCULLUS (Lat. a hood), a hood.

CULM (*culmus*, Lat. straw), the straw or stem of grasses.

CUNEATE (*cuneus*, Lat. a wedge), wedge-shaped (104).

CUNICULATE (*cuniculus*, Lat. a rabbit-hole), pierced with a long passage.

CUPULA (Lat. a little cup), the cup of an acorn (226).

CUPULIFORM (*cupula*, Lat. a little cup), like an acorn-cup.

CUSPIDATE (*cuspidatus*, Lat. pointed), tapering gradually to a sharp stiff point.

CUTICLE (*cuticula*, Lat. the outer skin), the outer pellicle of the epidermis.

CUTIS (Lat. a skin), the peridium of some fungi.

CYATHUS (Lat. a cup), the cup-like bodies of *Marchantia* (286).

CYCLE (*cyclicus*, Lat. circular), the turn of a spiral in leaf-order.

CYCLICAL (*cyclicus*, Lat. circular), rolled up or coiled up (252).

CYCLOGENS (*kuklos*, Gr. a circle; *gennao*, I produce), a nearly obsolete synonym of *Exogens*.

CYCLOSIS (*kuklos*, Gr. a circle), partial circulation of the latex of plants.

CYLINDRENCHYMA (*kulindros*, Gr. a cylinder; *cheuma*, tissue), a name applied to cylindrical cells.

CYMBELLÆ (*cymbula*, Lat. a little boat), reproductive locomotive bodies in algæ.

CYMBIFORM (*cymba*, Lat. a boat), boat-shaped.

CYME (*cyma*, Lat. a sprout), a kind of inflorescence developed in a centripetal manner (150, 151).

CYNARRHODON (Gr. fruits of the wild rose), a name given to the "hips," or fruits, of roses (241).

CYPHELLÆ (*kuphos*, Gr. bent in), urn-shaped soredia on the under-surface of the thallus of some lichens.

CYPSELA (Lat. a martin or swallow), a one-seeded indehiscent inferior fruit, resulting from a unilocular ovary, generally surmounted by the remains of the calyx (164).

CYST (*kustis*, Gr. a bladder), a sub-globose cell or cavity.

CYSTIDIA (*kustis*, Gr. a bladder), reproductive cells found with the asci of some fungi.

CYSTOCARP (*kustis*, Gr. a bladder), a spore-case of seaweeds.

CYTOBLAST (*kutos*, Gr. a cell; *blastos*, a germ), a cell-germ; synonym of *protoplasm*.

CYTOGENESIS (*kutos*, Gr. a cell; *genesis*, origin), cell development.

D.

DÆDALENCHYMA (*daidalos*, Gr. entangled; *cheuma*, tissue), entangled cells, as in some fungi.

DECANDROUS (*deka*, Gr. ten; *anēr*, a man), when a flower has ten stamens.

DECIDUOUS (*deciduus*, Lat. subject to falling), applied to plants the leaves of which are shed annually.

DECLINATE (*declinatus*, Lat. turned aside), bent downwards or on one side.

DECOMPOUND (*de*, Lat. from; *compositus*, compounded), having compound divisions.

DECUMBENT (*decumbens*, Lat. lying down), lying on the ground with a tendency to rise at the extremities.

DECURRENT (*decurrens*, Lat. running down), when the limb of a leaf (122) or the gills of an Agaric (280) are prolonged down the stem.

DECUSSATE (*decussatus*, Lat. cut crossways), in pairs alternately crossing.

DEDUPLICATION. (See UNLINING.)

DEFINITE (*definitus*, Lat. defined), applied to stamens when constant and not exceeding twenty.

DEFLEXED (*deflexus*, Lat. bent), bending downwards through the whole length.

DEFOLIATION (*de*, Lat. from ; *folium*, a leaf), the falling of leaves.

DEHISCENCE (*dehisco*, Lat. I gape), splitting into regular parts.

DELTOID (Δ *delta*, Gr. letter D), triangular in section or outline.

DENDROID (*dendron*, Gr. a tree), branched like a tree.

DENTATE (*dens*, Lat. a tooth), toothed as in *Fig. 75*.

DENUDATE (*denudatus*, Lat. made naked), a hairy or downy surface become naked.

DEPAUPERATE (*depauperatus*, Lat. impoverished), starved, or imperfectly developed.

DEXTRORSE (*dexter*, Lat. the right hand), turned to the right.

DIACHYMA (*dia*, Gr. in the midst ; *cheuma*, tissue), applied sometimes to the parenchyma of leaves.

DIADELPHOUS (*dis*, Gr. twice ; *adelphos*, a brother), stamens in two bundles (190).

DIANDROUS (*dis*, Gr. twice ; *anēr*, man), when a flower has two stamens.

DIAPHANOUS (*dia*, Gr. through ; *phaino*, I show) nearly transparent.

DICHLAMYDEOUS (*dis*, Gr. twice ; *chlamus*, a cloak,, having both calyx and corolla.

DICHOTOMOUS (*dichotomos*, Gr. divided into two), forked or furcate (150).

DICLESIIUM, a small dry indehiscent pericarp, having the indurated perianth adherent to the carpel, and forming part of the shell.

DICLINOUS (*dis*, Gr. twice ; *klinē*, a bed), stamens in one flower, and pistil in another.

DICOCOUS (*dis*, Gr. twice ; *kokkos*, a kind of seed), splitting into two cocci.

DICOTYLEDONOUS (*dis*, Gr. twice ; *kotyledon*, seed-leaf), having two cotyledons.

DICTYGENS (*diktuon*, Gr. a net ; *gennao*, I produce), Lindley's fifth class of plants.

DIDYNAMOUS (*dis*, Gr. twice ; *dunamis*, power), stamens, two long and two short (189).

DIGITALIFORM (from the generic name *Digitalis*), like the corolla of *Digitalis* (172).

DIGITATE (*digitatus*, Lat. having fingers), with several leaflets radiating from a common point (109).

DIGITATE-PINNATE (*digitatus*, Lat. having fingers), a digitate leaf, with pinnate leaflets.

DILAMINATION (*dis*, Lat. separate ; *lamina*, a blade). (See UNLINING.)

DIMIDIATE (*dimidiatus*, Lat. halved), when half of an organ is much smaller than the other half. The calyptra of mosses split on one side (125). Applied to the gills of Agarics when they proceed only half-way to the stem.

DIOECIOUS (*dis*, Gr. twice ; *oikos*, house), when stamiferous flowers are borne on one plant, and pistilliferous on another. ♂ ♀

DIPETALOUS (*dis*, Gr. twice ; *petalon*, a petal), having two petals.

DIPLOSTEMONOUS (*diplos*, Gr. double ; *stemon*, stamen), with twice as many stamens as petals.

- DIPLOTEGIA** (*diplos*, Gr. double ; *stegos* a covering), an inferior capsule, dehiscing by valves or pores. A double covering, as of a calyx and epicalyx.
- DISCIFORM** (*discus*, Lat. a quoit), disk-shaped. Flat and circular.
- DISCOCARP** (*diskos*, Gr. a disk ; *karpōs*, a fruit), a collection of fruits in a hollow receptacle (241).
- DISCOIDAL** (*discus*, Lat. a quoit), round, with a convex face.
- DISK** (*discus*, Lat. a quoit), any organ between the stamens and ovary, generally scaly or annular (199).
- DISSEPIMENT** (*dissepio*, Lat. I separate), partitions in a fruit.
- DISTANT**, applied to the gills of Agarics when far away from each other.
- DISTICHIOUS** (*dis*, Gr. twice ; *stichos*, a rank), in two rows, opposite each other.
- DISTRACTILE** (*distractus*, Lat. drawn asunder), divided in two parts ; torn asunder (87).
- DIVARICATE** (*divaricatus*, Lat. severed), straggling, spreading irregularly.
- DODECANDROUS** (*dodeka*, Gr. twelve ; *anēr*, a man), when a flower has twelve stamens.
- DORSAL** (*dorsum*, Lat. the back), fixed upon the back.
- DRUPE** (*drupæ*, Lat. unripe olives), succulent or fleshy fruit, with a hard-shelled seed (222).
- DRUPEL**, a little drupe. (See ETÆRIO.)
- DUCTS** (*duco*, Lat. I conduct), tubular vessels marked with lines or dots.
- DURAMEN** (*durus*, Lat. hard), heartwood of trees.

E.

EARED (*see* AURICULATE) having two rounded lobes at the base (94).

EBRACTEATE (*e*, Lat. without; *bractea*, a bract), without bracts.

ECHINATE (*echinatus*, Lat. set with bristles), furnished with stiff prickles.

EDENTATE (*e*, Lat. without; *dens*, a tooth), without teeth.

ELATER (*elater*, Gr. a driver), elastic spiral threads, found with spores in liverworts, &c. (284 4).

ELLIPTICAL (*elleipsis*, Gr. an oval figure), having the form of an ellipse, oval, rounded at the ends (85).

EMARGINATE (*e*, Lat. out of; *margo*, the margin), having a notch at the end (128). Applied to the gills of Agarics when they are notched or scooped out before reaching the stem (279).

EMBRYO (*embruon*, Gr. a foetus), rudimentary plant within its seed.

EMBRYO-BUDS (*embruon*, Gr. a foetus), a term sometimes applied to adventitious buds found beneath the bark in the trunks of some trees.

ENDOCARP (*endon*, Gr. within; *karpos*, fruit), lining of a carpel. Inner layer of pericarp.

ENDOCHROME (*endon*, Gr. within; *chromos*, colour), cell-contents of Algæ. Colouring matters.

ENDOGENOUS (*endon*, Gr. within; *gennao*, I produce), growing by additions in the centre (33).

ENDOPHLEUM (*endon*, Gr. within; *phloios*, bark), inner layer of bark. The liber.

ENDOPLEURA (*endon*, Gr. within; *pleura*, a side), the innermost skin of a seed-coat.

ENDORHIZAL (*endon*, Gr. within; *rhiza*, a root), in germination, when the root protrudes from the end of the radicle, the latter forming a sheath at its base (257).

ENDOSMOSE (*endon*, Gr. within; *osmos*, impulsion), the inward current established between fluids of different densities when separated by animal or vegetable membrane.

ENDOSPORE (*endon*, Gr. within), the inner integument of lichen-spores.

ENDOSTOME (*endon*, Gr. within; *stoma*, a mouth), an opening in the inner integument of an ovule.

ENDOTHECIUM (*endon*, Gr. within; *thekē*, a box), lining of an anther-lobe.

ENNEANDROUS (*ennea*, Gr. nine; *anēr*, a man), when a flower has nine stamens.

ENSIFORM (*ensis*, Lat. a sword; *forma*, shape), shaped like a broad-sword.

ENTIRE, having no marginal divisions or serratures (68, 69).

ENTOPHYTES (*endon*, Gr. within; *phuton*, a plant), plants growing within others.

EPIBLEMA (*epi*, Gr. upon; *blema*, a wound), a kind of imperfect epidermis covering the extremities of roots, &c.

EPICALYX (*epi*, Gr. upon; *calux*, the calyx), an external involucre to the calyx, as in mallows (245).

EPICARP (*epi*, Gr. upon; *karpōs*, fruit), the outer layer of a pericarp (230 E).

EPICHILIIUM (*epi*, Gr. upon; *cheilos*, a lip), the upper portion of the labellum of an orchid, when it is divided into two parts.

EPICLINAL (*epi*, Gr. upon; *klinē*, a bed), seated on the disk or receptacle.

EPIDERMIS (*epi*, Gr. upon; *derma*, skin), the true skin of plants.

EPIGONIUM (*epi*, Gr. upon; *gunē*, female), a bag inclosing the young spore-case of liverworts.

EPIGYNOUS (*epi*, Gr. upon; *gunē*, a female), appearing to grow upon the ovary (197).

EPIPETALOUS (*epi*, Gr. upon; *petalon*, a petal), growing upon the petals (198).

EPIPHLŒUM (*epi*, Gr. upon; *phloios*, bark), the outer layer of bark.

EPIPHRAGM (*epi*, Gr. upon; *phragma*, a division), a membrane closing the mouth of the theca in urn mosses.

EPIPHYLLONS (*epi*, Gr. upon; *phyllon*, a leaf), upon a leaf.

EPIPHYTAL (*epi*, Gr. upon; *phuton*, a plant), growing upon another plant.

EPIPHYTE (*epi*, Gr. upon; *phuton*, a plant), a plant growing upon, but not nourished by another.

EPISPERM (*epi*, Gr. upon; *sperma*, the seed), the seed-coat.

EPISPORANGIUM (*epi*, Gr. upon; *spora*, a seed; *aggos*, a vessel), an indusium overlying the spore-cases of a fern (*Aspidium*).

EPISPORE (*epi*, Gr. upon ; *spora*, a seed), the outer integument of lichen-spores.

EPITHELIUM (*epi*, Gr. upon ; *thēlē*, a nipple) a modified epidermis with thin cells, filled with transparent colourless fluid, lining the ovary, &c.

EPLIcate (*e*, Lat. not ; *plicatus*, plaited), not plaited.

EQUITANT (*equitans*, Lat. riding), in vernation, when leaves over-ride each other (61).

ERECT (*erectus*, Lat. upright), applied to ovules arising from the base of the ovary (211).

EROSE, ERODED (*erosus*, Lat. gnawed round about), having irregular serratures, as if bitten out.

ESTIVATION, arrangement of leaves in a flower-bud. (See ÆSTIVATION.)

ETÆRIO (*etairia*, Gr. a society), a fruit composed of agglomerated drupes (229).

ETIOLATED (*etiolatus*, Lat. blanched), blanched ; deprived of colour.

EVITTATE (*e*, Lat. without ; *vittæ*, bands), without vittæ.

EXALBUMINOUS (*ex*, Lat. without ; *albumen*), without albumen.

EXASPERATE (*exasperatus*, Lat. sharpened), clad with hard stiff short points.

EXCENTRIC (*ex*, Lat. without ; *centrum*, the centre), out of the centre.

EXCIPLE (*excipio*, Lat. I receive), the capsule or envelope of the thalamium in the apothecia of

lichens, being an expansion of the thallus (237, 274).

EXCURRENT (*excurrens*, Lat. sallying forth), central, as the stem of a fir, with branches disposed regularly around it.

EXINDUSIATE (*ex*, Lat. without; *indusium*, a shirt), not having an indusium.

EXINTINE (*ex*, Lat. outside; *internus*, the internal), middle coating of a pollen-grain.

EXOGENOUS (*exo*, Gr. outwards; *gennao*, I produce), growing by additions to the outside of the stem (32).

EXORHIZAL (*exo*, Gr. outwards; *rhiza*, a root), in germination, when the point of the radicle grows, and becomes the first root.

EXOSMOSE (*exo*, Gr. outwards; *osmos*, impulsion), the outward current between fluids of different densities, separated by animal or vegetable membrane.

EXOSTOME (*exo*, Gr. without; *stoma*, a mouth), the opening in the outer coating of the nucleus.

EXOSTOSIS (*exostosis*, Gr. a bony protuberance), a wart-like excrescence often developed on roots of leguminous plants.

EXSERTED (*exsertus*, Lat. thrust out), projecting beyond the orifice.

EXTINE (*ex*, Lat. outwards; *teneo*, I hold), outer coat of a pollen-grain.

EXTRORSE (*extra*, Lat. externally; *orsus*, originating), turned outwards.

F.

FALCATE (*falcatus*, Lat. hooked), sickle-shaped.

FAN-SHAPED, plaited like a fan, as some palm-leaves.
(See FLABELLIFORM.)

FARINACEOUS (*farina*, Lat. flour), with the texture of flour.

FARINOSE (*farina*, Lat. flour), covered with a white mealy powder.

FASCIATED (*fasciatus*, Lat. swathed), when a stem is flattened out.

FASCICLED, FASCICULATED (*fascicula*, Lat. a little bundle), in bundles proceeding from a common point (29).

FASCICULUS (Lat. a little bundle), in inflorescence, a cymose collection of nearly sessile flowers, forming a dense flat-topped bunch, as in the Sweet-william.

FASTIGIATE (*fastigiatus*, Lat. sharpened upwards), nearly parallel, pointing upwards.

FAVELLÆ (*favillæ*, Lat. white ashes), collections of spores resembling sori, found imbedded in the substance of the fronds of some algæ.

FAVOSE, FAVEOLATE (*favus*, Lat. honeycomb), honey-combed.

FEATHER-VEINED, where the primary veins are nearly straight, parallel, and run to the margin (67).

FEATHERY, hairs which are themselves hairy.

FENESTRATE (*fenestratus*, Lat. having windows), with openings like a window.

FIBRILLÆ (Lat. little filaments), the thread-like subdivisions of roots.

FIBRILLOSE (*fibra*, Lat. a filament), covered with loose fibres.

FIBRO-VASCULAR (*fibra*, Lat. a filament; *vasculus*, a vessel), vessels containing spiral fibres entire or broken.

FIDDLE-SHAPED. (See PANDURIFORM.)

FILAMENT (*filum*, Lat. a thread), the stalk of an anther (186).

FILIFORM (*filum*, Lat. a thread), slender as a thread.

FIMBRIATED (*fimbriatus*, Lat. fringed), fringed.

FISSIPAROUS (*fissus*, Lat. cleft), propagating by a subdivision of cells (10).

FISTULAR, FISTULOSE (*fistulosus*, Lat. hollow), hollow, and closed at each end (282).

FLABELLIFORM (*flabellum*, Lat. a fan), fan-shaped.

FLACCID (*flaccidus*, Lat. withered), wilted or relaxed.

FLAGELLIFORM (*flagellum*, Lat. a whip), tapering and supple like a whip.

FLAGELLUM (Lat. a whip), a runner; a small branch (35).

FLEXUOSE (*flexuosus*, Lat. full of turnings), zigzag; wavy.

FLOCCI (Lat. locks of wool), woolly hairs or threads.

FLOCCOSE (*floccus*, Lat. a lock of wool), covered with hairs which fall away in tufts.

FLORAL ENVELOPES, the calyx and corolla.

FLORETS (*Flora*, the goddess of flowers), the small flowers collected into a head in composite plants.

FOLIACEOUS (*folium*, Lat. a leaf), with the form or texture of a leaf.

FOLIATION (*folium*, Lat. a leaf), the act of leafing.

FOLIOLE (*folium*, Lat. a leaf), a leaflet.

FOLLICLE (*folliculus*, Lat. a little bag), a fruit of one carpel, dehiscing by the ventral suture (232).

FORAMEN (Lat. a hole), the aperture in the integuments of an ovule (215 *f*).

FORCIPATE (*forceps*, Lat. nippers), forked like pincers.

FORNIX (Lat. an arch), arched scales in the orifice of some flowers.

FOVEOLA (Lat. a little pit), the perithecium of fungi.

FOVEOLATE (*fovea*, Lat. a pitfall), pitted.

FOVILLA (*foveo*, Lat. I nourish), fluid contained in pollen-grains.

FREE, not adhering or adnate (277).

FROND (*frons*, Lat. a leaf), combination of leaf and stem.

FRUCTIFICATION (*fructus*, Lat. fruit), reproductive parts of a plant.

FRUSTULE (*frustum*, Lat. a fragment), the fragments into which Diatoms separate.

FRUSTULOSE (*frustum*, Lat. a fragment), consisting of fragments.

FUGACIOUS (*fugax*, Lat. fading), falling off rapidly.

FUNGIFORM (*fungus*, Lat. a mushroom), mushroom-shaped (276).

FUNICULUS (Lat. a little rope), thread connecting the ovule with placenta.

FUNNEL-SHAPED. (*See* INFUNDIBULIFORM.)

FURCATE (*furca*, Lat. a fork), forked (70).

FURFURACEOUS (*furfur*, Lat. bran), scurfy.

FUSIFORM (*fusus*, Lat. a spindle), spindle-shaped (24).

G.

GALBULUS (Lat. fruit of the cypress), a modification of strobilus with enlarged or fleshy scales (239).

GALEA (Lat. a helmet), the helmet of the flower of *Aconitum*, &c. (166).

GALL, a tumour produced by the puncture of an insect (290 3).

GAMOPETALOUS (*gamos*, Gr. wedding; *petalon*, petal), with the petals united (168-178). (*See* MONOPETALOUS.)

GAMOSEPALOUS (*gamos*, Gr. wedding), with the sepals united. (*See* MONOSEPALOUS.)

GANGLIA (*ganglion*, Lat. a swelling), the mycelium of some fungi.

GEMMÆ (*gemma*, Lat. a bud), reproductive buds found in liverworts.

GEMMATION (*gemma*, Lat. a bud), the act of budding (11).

GEMMULE (*gemma*, Lat. a bud). (*See* LEAF-BUD.)

GENICULATE (*geniculatus*, Lat. jointed), bent abruptly to a decided angle.

GERMEN (Lat. a branch). (*See* OVARY.)

GERMINATION (*germen*, Lat. a bud or branch), the first act of growth in an embryo.

GIBBER (*gibbus*, Lat. a swelling), a pouch at the base of a floral envelope (182).

GIBBOUS (*gibbus*, Lat. a swelling), having pouches or convex swellings.

GILLS, vertical plates radiating from the stipe on the under-surface of the pileus of fungi (276 *g*).

GLABROUS (*glaber*, Lat. smooth), destitute of hairs, smooth.

GLANDS, wart-like swellings. Receptacles of secretions.

GLANDULAR (*glandula*, Lat. a gland), covered with hairs possessed of glands.

GLANDULAR (*glandula*, Lat. a gland), applied to tissue with concave depressions on the walls of the vessels of which it is composed (13, 14).

GLANS (Lat. oak-mast), an indehiscent fruit seated in a cupule (226).

GLAUCOUS (*glaucus*, Lat. sea-green), covered with a bloom of a bluish-green tinge.

GLOBOSE (*globosus*, Lat.), nearly spherical.

GLOBULUS (*globulus*, Lat. a globule), the round deciduous shield of some lichens.

GLOCHIDIATE (*glochis*, Gr. a point), barbed like a fish-hook (48).

GLOMERATE (*glomero*, Lat. I heap up), collected into a close head.

GLOMERULI (*glomero*, Lat. I heap up), powdery masses on the surface of some lichens.

- GLOMERULUS** (*glomero*, Lat. I heap up), a form of inflorescence, in which the florets are arranged about a globose head or receptacle (146).
- GLUME** (*gluma*, Lat. chaff), exterior scales of the flower of grasses (137).
- GNOMONICAL** (*gnomonicus*, Lat. belonging to a dial), when a stalk is bent at right angles.
- GONIDIA** (*gonē*, Gr. generation; *eidōs*, resemblance), secondary reproductive green granules in the thallus of lichens immediately beneath the surface.
- GONOPHORUM** (*gonos*, Gr. generation; *phero*, I bear), an elongated receptacle, elevating the stamens and carpels.
- GRANULAR** (*granum*, Lat. a grain of corn), divided into little knots. Containing granules.
- GRANULES** (*granum*, Lat. a grain of corn), grains. Small bodies.
- GROSSIFICATION** (*grossificatio*, Lat.), the swelling of the ovary after impregnation.
- GRUMOUS** (*grumus*, Lat. a hillock), divided into little clustered grains. Clotted.
- GYMNOCARPOUS** (*gumnos*, Gr. naked; *karpos*, fruit), applied to the apothecia of lichens, when the thalamium *a* is not inclosed by the exciple *b* (274).
- GYMNOSPERMS** (*gumnos*, Gr. naked; *sperma*, a seed), ovules developed without the usual integuments.
- GYNANDROUS** (*gunē*, Gr. a woman; *anēr*, a man), having stamens and pistil united into one body.
- GYNOBASE** (*gunē*, a woman; *basis*, a base), a conical prolongation of the thalamus at the base of which the carpels are attached (246).

GYNÆCIUM (*gunē*, Gr. a woman ; *oikos*, a house), the pistil and its appendages.

GYNOPHORE (*gunē*, Gr. a woman ; *phero*, I bear), a pedicellary support to the ovary (225).

GYNOSTEMIUM (*gunē*, Gr. female ; *stemon*, stamen), the united stamens and pistil of orchids (188).

GYROMA (*gyrus*, Lat. a circle), the annulus around the spore-case of ferns (287 2).

GYROSE (*gyrus*, Lat. a circle), folded and waved ; marked with wavy lines (192).

H.

HABIT (*habitus*, Lat.), the general appearance of a plant.

HABITAT (*habitatio*, Lat. a habitation), the situation of a plant in its wild state.

HAIRS, delicate conical expansions of the epidermis (42).

HAIR-SHAPED. (*See* FILIFORM.)

HALBERT-SHAPED. (*See* HASTATE.)

HAMULOSE (*hamus*, Lat. a hook) covered with little hooks.

HAMULUS (*hamus*, Lat. a hook), a kind of hooked bristle.

HASTATE (*hastatus*, Lat. bearing spears), halbert-shaped (applied to leaves), (95).

HAUSTORIUM (*haustor*, Lat. a drawer), the root-like sucker of ivy, &c.

HEART-SHAPED. (*See* CORDATE.)

- HEART-WOOD (*see* DURAMEN), the central wood of Exogens.
- HELICOID (*elix*, Gr. a coil; *eidos*, resemblance), twisted like a snail shell (235).
- HEMIANATROPAL (*ēmīsus*, Gr. half; *trepo*, I turn), half anatropal (applied to ovules), (210).
- HEMITROPAL (*ēmīsus*, Gr. half; *trepo*, I turn), a modified anatropal ovule.
- HEPTANDROUS (*epta*, Gr. seven; *anēr*, man), when a flower has seven stamens.
- HERBACEOUS (*herbaceus*, Lat. belonging to herbs), green; producing an annual stem from a perennial root.
- HERBARIUM (*herba*, Lat. a plant), a collection of dried plants.
- HERMAPHRODITE (*hermaphroditus*, Lat. male and female), flowers with both stamens and pistil (♂₊).
- HESPERIDIUM (fruit of the Hesperides), fruits of the orange kind.
- HETEROCEPHALUS (*eteros*, Gr. another; *kephalos*, a head), bearing, separately, heads of male and female flowers.
- HETERODROMOUS (*eteros*, Gr. another; *dromos*, course), following a different direction, as of leaves on the stem and branches.
- HETEROGAMOUS (*eteros*, Gr. another; *gamos*, wedding), when the florets of the ray are neuter or female, and those of the disk male.
- HETERORHIZAL (*eteros*, Gr. diverse; *rhiza*, root),

rooting from no fixed point, applied to the roots of *Aerogens*.

HETEROTROPAL (*eteros*, Gr. another; *trepo*, I turn), parallel with the hilum (applied to the embryo).

HEXAGONIENCHYMA (*exagonios*, Gr. six-angled; *cheuma*, tissue), a term given to cellular tissue exhibiting hexagonal forms in section (7).

HEXANDROUS (*ex*, Gr. six; *anēr*, man), when a flower has six stamens.

HEXAPETALOID (*ex*, Gr. six; *petalon*, a petal), with six coloured parts, like petals.

HIDDEN-VEINED, with the veins buried in succulent leaves.

HILUM (Lat. the black scar of a bean), scar left by the separation of seed from its placenta.

HILUM (Lat. the black scar of a bean), the aperture in the extine of pollen-grains.

HIPPOCREPIFORM (*ippos*, Gr. a horse; *krepis*, a shoe), horse-shoe shaped.

HIRSUTE (*hirsutus*, Lat. hairy), hairy.

HISPID (*hispidus*, Lat. rough), covered with long stiff hairs.

HISTOLOGY (*istos*, Gr. a web or tissue; *logos*, a discourse), that branch of biology which treats of animal and vegetable tissues.

HOMOCARPOUS (*omos*, Gr. alike; *karpos*, fruit), with all the fruits of a flower-head alike.

HOMODROMOUS (*omoios*, Gr. similar; *dromos*, course), following the same direction, as of leaves on the stem and branches.

- HOMOGAMOUS** (*omos*, Gr. alike; *gamos*, wedding), with all the florets of a capitulum hermaphrodite.
- HOMOTROPAL** (*omos*, Gr. alike; *trepo*, I turn), applied to an embryo lying in the same direction as the seed, but not straight.
- HYALINE** (*ualos*, Gr. glass), transparent; a substance which, according to some, originates the cell nucleus.
- HYBRID** (*hybrida*, Lat. a mongrel), a plant obtained by the application of the pollen of one species to the stigma of another.
- HYDROPHYTES** (*hydor*, Gr. water; *phuton*, a plant), plants living totally in water.
- HYGROPHANOUS** (*ugron*, Gr. water), looking watery when moist, and opaque when dry.
- HYMENIUM** (*umēn*, Gr. a membrane), the part of fungi on which spores are borne; the fructifying surface.
- HYMENOPHORUM** (*umēn*, Gr. a membrane; *phero*, I bear), the structure which bears the hymenium.
- HYMENULUM** (*umēn*, Gr. a membrane), a shield containing asci.
- HYPANTHODIUM** (*upo*, Gr. under; *anthos*, a flower), a fleshy receptacle inclosing the flowers, as in the fig. (240).
- HYPHA** (*upha*, Gr. a web), the mycelium of certain fungi.
- HYPOCHILIUM** (*upo*, Gr. under; *cheilos*, the lip), the lower part of the labellum, when it is divided.
- HYPOCRATERIFORM** (*upo*, Gr. under; *kratēr*, a goblet), a flower of which the tube is long and the limb flat (169).

HYPODERMIS (*upo*, Gr. under; *derma*, the skin), inner layer of moss thecæ.

HYPOGÆOUS (*upo*, Gr. under; *gea*, the earth), subterranean.

HYPOGYNOUS (*upo*, Gr. under; *gunē*, a woman) growing from beneath the ovary (195).

HYPOPHYLLUS (*upo*, Gr. under; *phyllon*, a leaf), growing from the under-side of a leaf.

HYPOSPORANGIUM (*upo*, Gr. under; *spora*, seed; *aggos*, vessel), indusium of ferns growing from beneath the spore-case.

HYPOTHALLUS (*upo*, Gr. under; *thallus*, a frond), delicate fungoid filaments, upon which a lichen thallus is first developed.

HYPOTHECIUM (*upo*, Gr. under; *thekē*, a case), the cellular disk beneath the thalamium in lichens, bearing the thecæ (274).

HYSTEROPHYTES (*hystera*, Gr. the womb; *phuton*, a plant), plants living upon dead or living organic matter, as fungi.

I.

IDIOTHALAMUS (*idios*, Gr. peculiar; *thalamos*, a receptacle), possessed of a colour or texture differing from the thallus in lichens.

IMBRICATE (*imbricatus*, Lat. overlapped like tiles), overlapped, like the tiles of a house (60).

IMBRICATIVE (*imbricatus*, Lat. overlapped), in æstivation, overlapped at the edge (157).

IMMARGINATE (*in*, Lat. without; *margo*, a border), having no rim.

IMPARIPINNATE (*impar*, Lat. odd; *pinnatus*, winged), a pinnate leaf terminated by a single leaflet (105).

IMPERFORATE (*in*, Lat. without; *perforo*, I bore through), without a terminal opening.

IMPREGNATION, the fertilization of the ovules. (*See FERTILIZATION.*)

INCANESCENT (*incanescere*, Lat. I grow hoary), having a gray or hoary appearance.

INCONSPICUOUS (*inconspicuus*, Lat. not conspicuous), small in size; not easily observed.

INCRASSATE (*in* and *crassus*, Lat. thick), thickened.

INCUMBENT (*incumbens*, Lat. leaning upon), applied to embryo, when its radicle is folded upon the back of the cotyledons (255).

INCURVATE (*incurvus*, Lat. bent in), curved inwards.

INDEFINITE (*in*, Lat. not; *definitus*, defined) denotes uncertainty, or without limit, applied to stamens when more than twenty (∞).

INDEHISCENT (*in*, Lat. not; *dehisco*, I gape), not splitting when ripe (applied to fruits).

INDUMENTUM (Lat. a covering of skin or hair), a hairy covering.

INDUPLICATE (*in*, Lat. in; *duplicatus*, doubled), with the margins doubled inwards (59).

A form of vernation and æstivation (55).

INDUSIUM (Lat. a shirt), the involucre or covering of the thecæ of ferns (289).

INEMBRYONATE (*in*, Lat. not; *embryo*, an embryo), without an embryo.

INENCHYMA (*ines*, Gr. fibres; *cheuma*, tissue), cells with spiral fibres coiled up in their interior (9).

INFERIOR (Lat., lower), growing below, as when one organ is below another.

INFLEXED. (*See* INCURVED.)

INFLORESCENCE (*infloresco*, Lat. I flourish), the manner in which flowers are arranged upon the stem.

INFUNDIBULIFORM (*infundibulum*, Lat. a funnel), funnel-shaped (170).

INNATE (*innatus*, Lat. inbred), adhering to the apex (186 *b*).

INOSCULATION (*inoculo*, Lat. I engraft), grafting or budding.

INSERTION (*insertus*, Lat. put in), the *mode* in which one body is connected to another.

INTEGUMENT (*integumentum*, Lat. a covering), one portion investing another.

INTERCELLULAR (*inter*, Lat. between; *cellula*, a little cell), between cells.

INTERNODE (*inter*, Lat. between; *nodus*, a knot), the space between two nodes.

INTEXTINE (*in*, Lat. with; *externus*, the outside), in pollen-grains the coating next the extine.

INTINE (*internus*, Lat. internal), the inner lining of pollen-grains.

INTRAFOLIACEOUS (*intra*, Lat. within; *folium*, a leaf), within the axil of a leaf.

INTRAPETIOLARY (*intra*, Lat. within; *petiolus*, a stalk), between the bases of the petioles of opposite leaves (136 *s*).

INTROFLEXED. (*See* INCURVED.)

INTRORSE (*introrsus*, Lat. inwardly), turned towards the axis.

INVERTED (*inverto*, Lat. I turn in), applied to ovules attached to the top of the ovary (213).

INVOLUCELS (*involucrum*, Lat. a cover), secondary involucre.

INVOLUCRE (*involucrum*, Lat. a cover), a ring of bracts surrounding several flowers (154).

INVOLUTE (*involutus*, Lat. wrapped up), with the edges rolled inwards (55).

ISIDIOID (*isidos*, Lat. resembling coral), applied to the surface of lichens when covered with a dense mass of conical soredia.

ISIDIUM (Lat. resembling coral), coral-like soredia on the surface of some lichens.

ISOMEROUS (*isos*, Gr. equal; *meros*, a part), equal in number.

ISOSTEMONOUS (*isos*, Gr. equal; *stēmōn*, a stamen), when the number of stamens and petals are equal.

J.

JOINTED, having joints, or with the appearance of joints.

JUGA (*jugum*, Lat. a yoke), ridges on the fruits of Umbellifers.

K.

KEEL. (*See* CARINA.)

KIDNEY-SHAPED. (*See* RENIFORM.)

KNOTTED, cylindrical, uneven on the surface.

L.

LABELLUM (*labium*, Lat. a lip), the lip, or lower petal of an orchid, &c. (184).

LABIATE (*labium*, Lat. a lip), a monopetalous corolla, with two unequal divisions (173).

LABIUM (Lat. a lip), the lower lip of a labiate flower.

LACINIATE (*lacinia*, Lat. a fringe), fringed.

LACINULA (Lat. a little fringe), the inflected point of the petals of Umbellifers.

LACUNA (Lat. a little hole), a depression; an inter-cellular space.

LACUNOSE (*lacuna*, Lat. a little hole), pitted, or having cavities.

LAGENIFORM (*lagena*, Lat. a flask), shaped like a Florence flask.

LAMELLÆ (Lat. thin plates of metal), the gills of fungi (276 g).

LAMINA (Lat. a thin plate), the blade of a leaf.

LANCEOLATE (*lancea*, Lat. a lance), having the form of a lance-head; elliptical, tapering to both ends (81).

LANUGINOSE (*lanuginosus*, Lat. downy), clad with curled and woolly hairs.

LATERAL (*lateralis*, Lat. of the side), attached to the side.

LATEX (Lat. juice), the viscid fluid contained in laticiferous vessels.

LATICIFEROUS VESSELS (*latex*, Lat. juice; *fero*, I bear), anastomosing tubes, containing the latex (17).

LEAF-BUDS, buds producing leaves.

LEAFLET, a division of a compound leaf.

LEGUME (*legumen*, Lat. pulse), a dehiscent two-valved carpel, bearing seeds on the ventral suture (233—235).

LENTICELS (*lenticella*, Lat. a little lentil), small lens-shaped spots on the bark, whence roots issue under favourable conditions.

LENTICULAR (*lens*, Lat. a lentil), resembling a double convex lens.

LENTIGINOSE (*lentiginosus*, Lat. covered with freckles), covered with dots as if dusted.

LEPIDOTE (*lepis*, Gr. a scale), scurfy with minute scales.

LEPIOTA (*lepis*, Gr. a scale), the annulus of some fungi.

LEPROUS (*lepra*, Lat. the leprosy), covered with a white mealy substance.

LIBER (Lat. inner bark, a book), the inner layer of the bark of Exogens.

LIGULA (Lat. a shoe-strap), the strap-shaped florets of Composites (175).

LIGULATE (*ligula*, Lat. a shoe-strap), strap-shaped (175).

LIGULE (*ligula*, Lat. a small slip), a prolongation at the upper portion of the sheath of grasses.

LIMB (*limbus*, Lat. a border), the upper expanded portion of a petal.

LINEAR (*linea*, Lat. a line), a narrow leaf with parallel sides (80).

LINGUÆFORM (*lingua*, Lat. a tongue), shaped like a tongue.

LIRELLA (Lat. a furrow), the linear apothecia of lichens, as in *Graphideæ* (272).

LOBULATE (*lobos*, Gr. the tip of the ear), divided into small lobes.

LOCELLUS (*loculus*, Lat. a little place), a secondary cell.

LOCULAMENT (*loculus*, Lat. a cell), a cell or cavity in a fruit or ovary.

LOCULICIDAL (*loculus*, Lat. a cell), mode of dehiscence through the backs of the carpels (219).

LOCUSTA (Lat. a locust); a spikelet of grasses (149).

LOMENTUM (Lat. bean meal), an indehiscent legume with transverse articulations between each seed.

LOPHIOSTOMATE (*lophao*, Gr. I wear a crest; *stoma*, a mouth), having the apertures or openings crested.

LUNULATE (*luna*, Lat. the moon), crescent-shaped.

LYCOTROPAL (*lukos*, Gr. a hollow disk; *trepo*, I turn), an orthotropal ovule curved downwards (209).

LYRATE (*lyra*, Lat. a harp), pinnatifid, with the upper lobes largest (101).

M.

MAMMILLÆ (Lat. teats), granular prominences on pollen-grains, &c.

MANICATE (*manicatus*, Lat. with gloves), covered with entangled hairs.

MARCESCENT (*marcesco*, Lat. I decay), withering, as petals after impregnation of the ovules.

MARGINATE (*margo*, Lat. an edge), having an edge of

a different texture to the body, so as to form a distinct border.

MATRIX (Lat. the womb), any body upon which a lichen or fungus grows.

MEDULLA (Lat. the marrow), the pith or central column of Exogens.

MEDULLARY RAYS (*medulla*, Lat. marrow), cellular plates passing from the medulla to the pith in exogenous stems (32).

MEDULLARY SHEATH (*medulla*, Lat. marrow), spiral vessels inclosing the medulla.

MEGASPORES (*megas*, Gr. great; *spora*, seed), the larger kind of reproductive spores found in Lycopods.

MEIOSTEMONOUS (*meiōn*, Gr. less; *stēmōn*, stamen), when the stamens are not so many as the petals.

MENISCOID (*meniskos*, Gr. a crescent), of the shape of a watch-glass.

MERENCHYMA (*meruo*, Gr. I revolve; *cheuma*, tissue), imperfect cellular tissue, composed of more or less rounded cells and abundant intercellular spaces.

MERICARP (*meris*, Gr. a portion; *karpōs*, fruit), one of the carpels of the fruit of an umbellifer (243).

MERISHAL, synonym of *Internode*.

MERISMATIC (*merismos*, Gr. division), dividing by the formation of internal partitions (10).

MESOCARP (*mesos*, Gr. middle; *karpōs*, fruit), the middle or intermediate layer of a pericarp (230 M).

MESOPHLEUM (*mesos*, Gr. middle; *phloios*, bark), the

middle layer of the bark, between the liber and epiphylæum.

MESOPHYLLUM (*mesos*, Gr. middle; *phyllon*, a leaf), all the cellular portion of a leaf lying between the upper and lower epidermis.

MICROPYLE (*mikros*, Gr. small; *pulē*, gate), the aperture in the skin of seed which was the foramen in the ovule.

MICROSPORES (*mikros*, Gr. little; *spora*, a spore), reproductive spores produced in capsules in Lycopods.

MITRIFORM (*mitra*, Lat. a bonnet; *forma*, shape), conical or mitre-shaped.

MONANDROUS (*monos*, Gr. one; *anēr*, man), when a flower has but one stamen.

MONILIFORM (*monile*, Lat. a necklace; *forma*, shape), necklace-shaped; contracted at intervals (25).

MONOCARPOUS (*monos*, Gr. one; *karpos*, fruit), fruiting but once in its life.

MONOCHLAMYDEOUS (*monos*, Gr. one; *chlamus*, tunic), with only one floral envelope.

MONOCOTYLEDONOUS (*monos*, Gr. one; *kotyledōn*, seed-leaf), having but one cotyledon.

MONODELPHOUS (*monos*, Gr. one; *adelphos*, brother), having the filaments all united into a tube around the style.

MONODICHLAMYDEOUS (*monos*, Gr. one; *dis*, twice; *chlamus*, tunic), having either one or both floral envelopes.

MONÆCIOUS (*monos*, Gr. one; *oikos*, house), with male and female flowers on the same plants (♂ ♀).

MONOGYNOUS (*monos*, Gr. one ; *gunē*, female), with but one style, even with many carpels.

MONOLOCLAR. (See UNILOCLAR.)

MONOPETALOUS (*monos*, Gr. one ; *petalon*, petal), with the petals united by their edges into one organ (168—178).

MONOSEPALOUS (*monos*, Gr. one ; *sepalon*, sepal), having all the sepals united by their edges into one organ.

MONOSPERMOUS (*monos*, Gr. one ; *sperma*, seed), a fruit with but one seed.

MONOSTICHOUS (*monos*, Gr. one ; *stichos*, a rank), arranged in one row.

MORPHOLOGY (*morphē*, Gr. form ; *logos*, discourse), the study of forms, or the transformations of organs.

MORPHOSIS (*morphē*, Gr. form), the order or mode of development of any organ.

MOTHER-CELLS, cells in which others are generated.

MUCEDINOUS (*mukēs*, Gr. mould), like a mould.

MUCOUS (*mucosus*, Lat. slimy), slimy, or covered with a slimy secretion.

MUCRONATE (*mucronatus*, Lat. pointed), abruptly pointed by a sharp spine.

MULTIFID (*multus*, Lat. many ; *fidus*, cleft), cut into many segments.

MULTIJUGATE (*multus*, Lat. many ; *jugum*, a yoke), with many pairs of leaflets (116).

MURICATE (*muricatus*, Lat. full of sharp points), rough, with hard tubercles.

MURIFORM (*murus*, Lat. a wall ; *forma*, shape), ap-

plied to tissue of compressed tabular cells superimposed, or side by side, like bricks in building (4).

MYCELIUM (*mukēs*, Gr. a mould), the spawn of fungi (276 m).

MYCINA (*mukēs*, Gr. a mould), a variety of lichen-shield.

N.

NAKED-SEEDED, having no pericarp.

NAPIFORM (*napus*, Lat. a turnip; *forma*, shape), turnip-shaped (26).

NAVICULAR (*navicula*, Lat. a little boat), shaped like a boat.

NECTAR (*nectar*, Lat. honey), the honey of flowers.

NECTARIFEROUS (*nectar*, Lat. honey; *fero*, I bear), honey-bearing.

NEEDLE-SHAPED. (See ACICULAR.)

NEMATHECIUM (*nema*, Gr. a thread; *thekē*, a sac), a case containing threads in some species of *Sphærococcus*.

NEPHROIDEOUS. (See RENIFORM.)

NERVATION (*nervus*, Lat. a nerve), the arrangement of veins in leaves.

NERVED, NERVATE (*nervus*, Lat. a nerve), with several ribs.

NETTED, covered with projecting reticulated lines.

NIDULARIUM (*nidulus*, Lat. a little nest), mycelium of certain fungi.

NODE (*nodus*, Lat. a knot), that portion of a stem whence a bud is developed.

NODULOSE (*nodulus*, Lat. a little knot), knotted (30).

NORMAL (*normalis*, Lat. according to rule), when the ordinary structure is adhered to.

NUCLEOLI (Lat. little kernels), smaller bodies contained within a cell-nucleus (3).

NUCLEUS (Lat. a kernel), the centre of an ovule, where the embryo is engendered. The cytoblast, or central germ, around which a cell is formed (2). The hymenium of the *perithecia* of fungi.

NUCULANIUM (*nucula*, Lat. a small nut), a superior pulpy fruit, the flesh of which contains several seeds.

NUT. (*See* GLANS.)

O.

OBOVATE (*ob*, Lat. inversely; *ovatus*, egg-shaped), inversely ovate (83).

OBCORDATE (*ob*, Lat. inversely; *cor*, heart), inversely cordate (92).

OBLONG (*oblongus*, Lat.), an obtusely terminated ellipse.

OBTUSE (*obtusus*, Lat. blunt), blunt or rounded.

OBVALLATE (*ob*, Lat. about; *vallo*, I fence), walled up; applied to certain fungi, as some *Sphæriæ*.

OBVOLUTE (*obvolutus*, Lat. covered over), when the margins of one organ alternately overlap its opposite (62).

OCELLATED (*ocellus*, Lat. a little eye), a broad round spot of one colour, with a spot of another colour in the centre.

OCHREA (Lat. a boot), a membranous stipule sheathing the stem (140).

OCTANDROUS (*okto*, Gr. eight; *anēr*, a man), when a flower has eight stamens.

OFFSET, a short lateral shoot or runner, ending in a cluster of leaves.

OLEAGINOUS (*oleaginus*, Lat. of an olive-tree), fleshy and oily.

OLIGANDROUS (*oligos*, Gr. few; *anēr*, man), when a flower has less than twenty stamens.

OMPHALODIUM (*omphalos*, Gr. the navel; *eidos*, resemblance), the mark left in the hilum by the passage of the raphe.

OOPHORIDIUM, spore-case of Lycopodiums.

OPERCULUM (Lat. a cover or lid), the lid of a moss thecæ (284 3) and of some capsular fruits.

OPPOSITE (*oppositus*, Lat. set against), when similar organs are arranged in pairs over against each other (107).

OPPOSITELY-PINNATE, a pinnate leaf with the leaflets arranged in pairs (107).

ORBICULAR (*orbiculus*, Lat. a little ball), circular (89).

ORBICULUS (Lat. a little ball), one of the circular bodies found in the cups of *Nidularia*.

ORBILLA (Lat. a little orb), lichen-shields in the genera *Usnea* (266).

ORGANOGRAPHY (*organum*, Lat. a machine), study of the structure of plants.

ORGANOGENESIS (*organum*, Lat. a machine ; *genesis*, beginning), gradual development of an organ.

ORTHOTROPAL (*orthos*, Gr. straight ; *trepo*, I turn), an erect nucleus, with the foramen opposite the hilum (205).

OSTIOLUM (Lat. a little door), the orifice through which spores are discharged ; mouth of a perithecium.

OVARY (*ovum*, Lat. an egg), the lower portion of the pistil, containing the ovules (202 3).

OVATE (*ovatus*, Lat. egg-shaped), elliptical, broadest at the base (82).

OVENCHYMA (*oon*, Gr. an egg ; *cheuma*, tissue), oval cellular tissue.

OVOID (*ovum*, Lat. an egg ; *eidos*, Gr. likeness), synonym for *ovate* when applied to solids.

OVULE (*ovulum*, Lat. a little egg), the young seed, or seed-bud.

P.

PAGINÆ (*pagina*, Lat. a flat page), the surfaces of leaves.

PALÆ (Lat. chaff), chaffy inner scales of the flower of grasses (137).

PALÆACEOUS (*palea*, Lat. chaff), covered with chaffy scales.

PALATE (*palatum*, Lat. roof of the mouth), the lower lip of a ringent corolla.

PALLID (*pallidus*, Lat. pale), of a pale and undecided colour.

- PALMATE** (*palma*, Lat. the palm), having five lobes, with midribs diverging from a common centre.
- PALMATIFID** (*palma*, Lat. the palm), cut half down in a palmate manner, as many leaves (99).
- PALMI-NERVED**, when the veins of a leaf are arranged in a palmate manner.
- PANDURIFORM** (*pandura*, Lat. a musical instrument), fiddle-shaped (86).
- PANICLE** (*panicula*, Lat. the down of reeds), a branched raceme (143).
- PAPILIONACEOUS** (*papilio*, Lat. a butterfly), with a corolla like a pea-flower (181).
- PAPILLÆ** (*papilla*, Lat. the nipple), soft superficial glands.
- PAPILLOSE, PAPILLATE** (*papilla*, Lat. the nipple), covered with soft tubercles.
- PAPPUS** (Lat. thistle-down), the coronate calyx of Composites (164).
- PAPYRACEOUS** (*papyrus*, Lat. a kind of paper), paper-like in texture.
- PARALLEL-VEINED**, having the veins straight and nearly parallel along the leaf, or from the midrib to the margin (69).
- PARAPHYSES** (*para*, Gr. about; *phuō*, I grow), jointed threads found with the reproductive organs of some cryptogamic plants (285 a).
- PARASITIC** (*para*, Gr. beside; *sitos*, food), growing upon and deriving support from another plant.
- PARASPERMATIA** (*para*, Gr. about; *sperma*, seed), bodies resembling spores, found in some algæ.

PARENCHYMA (*para*, Gr. between; *cheuma*, tissue), compressed or hexagonal cellular tissue, composed of cells united by plane surfaces (6).

PARIETAL (*paries*, Lat. a wall), growing to the walls of an ovary (203).

PARIETES (*paries*, Lat. a wall), inside walls, generally applied to ovary or fruit.

PARIPINNATE (*par*, Lat. equal; *pinna*, a wing), equally pinnate (108).

PARTHENOGENESIS (*parthenos*, Gr. virgin; *genesis*, origin), the assumed production of fertile seeds without sexual impregnation.

PARTITE (*partitus*, Lat. equally divided), divided nearly to the base.

PATELLA (Lat. a dish), a round convex or semiglobular apothecium in lichens, as *Lecidea* (270).

PATELLIFORM (*patella*, Lat. a dish), having the form of a kneepan.

PEARSHAPED. (See PYRIFORM.)

PECTINATE (*pecten*, Lat. a comb), pinnatifid, with narrow close segments, like the teeth of a comb.

PEDATE (*pedatus*, Lat. having feet), where the parts have a palmate arrangement, the lateral portions being again subdivided.

PEDATIFID (*pedatus*, Lat. footed), when the veining of a leaf is pedate, but the divisions of the lobes extend only halfway to the midrib.

PEDATISECT (*pedatus*, Lat. footed; *seco*, I cut), when the veining of a leaf is pedate and the divi-

sions of the lobes extend nearly to the midrib (100).

PEDATI-NERVED, when the veins of a leaf are arranged in a pedate manner.

PEDATIPARTITE (*pedatus*, Lat. footed ; *partio*, I part), when the venation of a leaf is pedate and the lobes are almost free.

PEDICEL (*pes*, Lat. a foot), a secondary peduncle.

PEDICELLATE (*pediculus*, Lat. a little foot), having pedicels.

PEDUNCLE (*pes*, Lat. a foot), the stalk of a flower.

PELTA (Lat. a target). the target-like apothecium of such lichens as *Peltidea*, without a distinct exciple.

PELTATE (*pelta*, Lat. a target), attached by the centre, or nearly so.

PENDULOUS (*pendeo*, Lat. I hang on), hanging down.

PENICELLATE (*penicillus*, Lat. a painter's pencil), bordered or tipped with pencil-like hairs.

PENNINERVED (*penna*, Lat. a feather ; *nerva*, a nerve), with ribs running straight from the midrib to the margin (67).

PENTACOCOUS (*pente*, Gr. five), splitting into five cocci.

PENTANDROUS (*pente*, Gr. five ; *anēr*, man), when a flower has five stamens.

PENTAPTEROUS (*pente*, Gr. five ; *pteron*, a wing), with five wings.

PEPO (Lat. a gourd), a succulent, inferior, one-celled fruit, with seeds borne on three parietal placentæ.

PERENCHYMA (*pera*, Gr. a sac ; *cheuma*, tissue),

applied sometimes to cellular tissue containing starch.

PERENNIAL (*perennis*, Lat. durable), lasting some years and flowering annually.

PERFOLIATE (*per*, Lat. through; *folium*, a leaf), an amplexicaul leaf with the basal lobes united (121).

PERIANTH (*peri*, Gr. around; *anthos*, a flower), the calyx and corolla combined, being so alike as not to be readily distinguishable.

PERICARP (*peri*, Gr. around; *karpos*, a fruit), the covering, shell, or rind of fruits.

PERICHÆTIUM (*peri*, Gr. around; *chaitē*, the mane), leaves surrounding the base of the seta of mosses.

PERICLADIUM (*peri*, Gr. around; *klados*, a branch), the sheathing membranaceous stipules of Umbellifers (140).

PERICLINIUM (*peri*, Gr. around; *klinē*, a bed), a name given to the involucre of composite flowers.

PERIDERMIS. (*Also* EPIPHLÆUM.)

PERIDIOLA (diminutive of *peridium*), applied to a number of small peridia inclosed in a general covering.

PERIDIUM (*perideo*, Gr. I wrap round), general covering, as of a puff-ball.

PERIGONE (*peri*, Gr. around; *gunē*, female), synonym for *Perianth*.

PERIGYNIUM (*peri*, Gr. around; *gunē*, a female), the membranous perianth of sedges.

PERIGYNOUS (*peri*, Gr. around; *gunē*, a female), grow-

ing upon the calyx or some part which surrounds the ovary (196).

PERISPERM. (*See* ALBUMEN.)

PERISPORANGIUM (*peri*, Gr. around; *spora*, seed; *aggos*, a vessel), the indusium of ferns when it surrounds the sori.

PERISTOMATIC (*peri*, Gr. around; *stoma*, a mouth), around the stomata.

PERISTOME (*peri*, Gr. around; *stoma*, a mouth), the toothed fringe around the mouth of the urns of mosses (283).

PERITHECIUM (*peri*, Gr. around; *thēkē*, a box), a bottle-like receptacle containing asci. The exciple of the apothecium of angiocarpous lichens.

PERITROPAL (*peri*, Gr. around; *trepo*, I turn), where the axis of a seed is perpendicular to the axis of the pericarp.

PERONATE (*peronatus*, Lat. wearing high shoes), with a woolly or mealy coat.

PERSISTENT (*persistens*, Lat. remaining), not falling away.

PERSONATE (*persona*, Lat. a mask), a monopetalous corolla, resembling the mouth of an animal, as in *Antirrhinum* (178).

PERTUSATE (*pertundo*, Lat. I bore through), pierced at the apex.

PETALOID (*petalon*, Gr. an unfolded leaf), resembling petals.

PETALS (*petalon*, Gr. an unfolded leaf), corolline leaves.

PETIOLE (*petiolus*, Lat. a little foot), a leaf-stalk.

PHÆNOGAMOUS (*phaneros*, Gr. apparent; *gamos*, marriage), having conspicuous or positive flowers.

PHALANGES (*phalanx*, Lat. a brigade or battalion), bundles of stamens.

PHANEROGAMOUS. (See PHÆNOGAMOUS.)

PHLEBOIDAL (*phleps*, Gr. a vein), has been applied to spiral, annular, or porous moniliform vessels.

PHORANTHIUM (*phero*, Gr. I bear; *anthos*, a flower). (See RECEPTACLE.)

PHRAGMA (*phragma*, Gr. a fence), a spurious dissepiment.

PHYLLODIUM (*phullon*, Gr. a leaf; *eidon*, form), a leaf in which the petiole is expanded and the leaflets suppressed.

PHYLLOGEN (*phullon*, Gr. a leaf; *gennao*, I produce), synonym of PHYLLOPHOR.

PHYLLOPHOR (*phullon*, Gr. a leaf; *phero*, I bear), the terminal bud or growing-point in palms.

PHYLLOTAXIS (*phullon*, Gr. a leaf; *taxis*, order), leaf-order, or arrangement on the stem.

PHYTON (*phuton*, Gr. a plant), a rudimentary plant.

PHYTOZOA (*phuton*, Gr. a plant; *zoon*, an animal), minute reproductive bodies possessed of molecular movements. (See SPERMATIZOIDS.)

PILEATE (*pileus*, Lat. a cap), having a cap or pileus.

PILEORHIZA (*pileus*, Lat. a cap; Gr. *rhiza*, a root), a cap or hood found at the end of some roots.

PILEUS (Lat. a cap), the cap of Agarics, &c. (276 p).

PILIDIUM (*pilos*, Gr. a cap; *eidon*, resemblance), an orbicular lichen-shield.

PILOSE (*pilus*, Lat. hair), hairy.

PINENCHYMA (*pinax*, Gr. a table; *cheuma*, tissue), tabular cells.

PINNÆ (*penna*, Lat. a feather), the leaflets of a pinnate leaf.

PINNATE (*penna*, Lat. a feather), leaves divided in a feathery manner (112—119).

PINNATIFID (*penna*, Lat. a feather; *findo*, I cleave), divided halfway to the midrib in segments in a feathery manner (102).

PINNATIPARTITE (*penna*, Lat. a feather; *partio*, I part), if the separate lobes of a feathered leaf are almost free.

PINNATISECT (*penna*, Lat. a feather; *seco*, I cut), divided nearly to the midrib in a pinnate manner.

PINNULÆ (Lat. little feathers), the secondary divisions of a pinnate leaf.

PISIFORM (*pisum*, Lat. a pea), pea-shaped.

PISTIL (*pistillum*, Lat. a pestle), the female organ of flowering plants (201).

PISTILLIDIA (diminutive of *pistillum*), organs in cryptogamic plants having the apparent functions of pistils.

PITCHER, a leaf having the petiole expanded into a vase-like form, to which the blade is attached as a lid (132).

PITH. (*See* MEDULLA.)

PITS, depressions in cells or tubes resembling pores.

PITTED, having numerous depressions or pits.

PLACENTA (Lat. a cheese-cake), the infolded edge of a carpellary leaf bearing the ovules (5).

PLACENTATION (*placenta*, Lat. a cheese-cake), the manner in which the placentæ are developed.

PLAITED, folded lengthwise like a fan.

PLEIOTRACHEÆ (*pleion*, Gr. more; *trachus*, rough), membranous tubes or tracheæ containing a compound spiral fibre (22).

PLEURENCHYMA (*pleura*, Gr. a rib; *cheuma*, tissue), woody tissue (13).

PLICATE (*plica*, Lat. a plait), plaited in folds like a fan; applied to veneration (53).

PLICATIVE (*plico*, Lat. I knit together), plaited or folded together; applied to æstivation (161).

PLUMOSE (*pluma*, Lat. a feather), feathery.

PLUMULE (*plumula*, Lat. a little feather), the rudimentary bud of an embryo (256 *q*).

POCULIFORM (*poculum*, Lat. a cup), cup-shaped.

PODETIA (*pous*, Gr. a foot), stalk-like prolongations of the thallus bearing the fructification in some lichens (267).

PODOSPERMIUM. (*See* FUNICULUS.)

POLLEN (Lat. fine flour), powdery matter of anthers; the fertilizing principle (193).

POLLEN-CELLS, the cavities of anthers.

POLLEN-TUBES, thread-like tubular processes developed from pollen-grains after they have become attached to the stigma, and proceeding down the

PRÆFOLIATION. (*See* VERNATION.)

PREMORSE (*præmorsus*, Lat. bitten off), having an irregular termination, as if bitten off.

PRICKLES, sharp conical elevations of the epidermis.

PRIMINE (*primus*, Lat. first), the outer integument of an ovule.

PRIMORDIAL UTRICLE (*primordium*, Lat. beginning), the layer first deposited within a cell.

PRISMATIC (*prisma*, Gr. a prism), having the form of a prism.

PRISMENCHYMA (*prisma*, Gr. a prism; *cheuma*, tissue), cellular tissue of a prismatic form.

PROCUMBENT (*procumbens*, Lat. bending downwards), lying flat on the ground.

PROEMBRYO (*pro*, Lat. for; *embryo*), the reproductive part of a spore.

PROLIFEROUS (*proles*, Lat. a race; *fero*, I bear), an unusual development of parts, as of germinating buds, &c.

PROPAGULA (*propago*, Lat. a shoot), powdery grains of the soredia of lichens.

PROPAGULUM (*propago*, Lat. a shoot), a runner ending in an expanded bud.

PROSENCHYMA (*pros*, Gr. near; *cheuma*, tissue), tissue composed of elongated pointed cells, forming what is termed fibre (12).

PROTOPLASM (*protos*, Gr. first; *plasma*, a formed work), deposits upon the inner walls of cells.

PRUINOSE (*pruina*, Lat. hoar-frost), having the sur-

face covered with a coarse granular secretion as if frosted.

PSEUDO-BULB (*pseudēs*, Gr. false), resembling a bulb in appearance but not in structure; found at the base of the stems in some orchids.

PTERO- (*pteron*, Gr. a wing), as a prefix signifies winged.

PUBESCENT (*pubescens*, Lat. downy), downy.

PULVERULENT (*pulverulentus*, Lat. dusted), covered with dust.

PULVINATE (*pulvinus*, Lat. a cushion), like a cushion.

PULVINULI (*pulvinus*, Lat. a cushion), excrescences on the surface of the thallus of some lichens.

PULVINUS (Lat. a cushion), the cushion at the base of some leaves.

PUNCTATE (*punctum*, Lat. a point), dotted.

PUNCTATED TISSUE. (See GLANDULAR TISSUE.)

PUTAMEN (Lat. shell of a nut), the hard bony stone of certain fruits, as the peach.

PYCNIDEA (*puknotis*, Gr. denseness), cysts containing stylospores; found in some lichens.

PYRENA. (See PUTAMEN, 265.)

PYRIFORM (*pyrus*, Lat. a pear), pear-shaped.

PYXIDIUM (*pyxis*, Lat. a box), a capsule opening with a lid (237).

Q.

QUADRIFOLIATE (*quadrans*, Lat. a fourth; *folium*, leaf), when four leaflets diverge from the same point.

- QUADRIJUGATE (*quartus*, Lat. fourth; *jugum*, a yoke), a compound leaf with four pairs of leaflets (108).
- QUARTINE (*quartus*, Lat. fourth), a fourth integument in some ovules.
- QUATERNATE (*quatuor*, Lat. four), arranged in fours.
- QUINATE (*quinus*, Lat. five), arranged in fives.
- QUINCUNCIAL (*quincunx*, Lat. an arrangement of five), in æstivation, when, of five parts, two are exterior, two interior, and one half exterior and half interior (160).
- QUINQUANGULAR (*quinque*, Lat. five), having five angles, as some leaves (98).

R.

- RACEME (*racemus*, Lat. a bunch), in inflorescence, a pedicellated spike (142).
- RACHIS (*rachis*, Gr. the backbone), the axis of inflorescence.
- RADICAL (*radix*, Lat. a root), springing from the root.
- RADICIE (*radix*, Lat. a root), the first or elementary root of a plant.
- RAMENTA (*ramentum*, Lat. a shaving), a thin membranous scurf, formed on the surface of leaves, &c.
- RAMOSE (*ramus*, Lat. a branch), much branched.
- RAPHE (*raphē*, Gr. a seam), the fibro-vascular thread running from the placenta to the nucleus (215 r).
- RAPHIDES (*raphis*, Gr. a needle), crystals of salts found deposited in vegetable tissues (15).

RECEPTACLE (*receptaculum*, Lat. a storehouse), a support to one or more similar organs ; a chamber in which secretions are stored.

RECLINATE (*reclinatus*, Lat. lying all along), bent down upon (250) ; applied to leaves bent in veneration, with the apex downwards (50).

RECURVED (*recurvus*, Lat. crooked), bent backwards.

REDUPPLICATIVE (*retro*, Lat. back ; *plico*, I fold), in æstivation, when the arrangement is valvate, with the margins reflexed.

REFLEXED (*reflexus*, Lat. turned back), curved backwards.

REFRACTED (*refractus*, Lat. broken), bent back suddenly.

REGULAR (*regularis*, Lat. according to rule), having all the parts of the organ uniform.

REGMA, a dry fruit, resembling the *carcerule*, save that each coccus is dehiscent individually, as in *Geranium*.

REMOTE, applied to the gills of Agarics when their inner extremities do not reach the stem (278).

RENIFORM (*ren*, Lat. the kidneys ; *forma*, shape), kidney-shaped (90).

REPAND (*repandus*, Lat. bowed), with an uneven, wavy margin.

REPLICATE (*re*, Lat. back ; *plico*, I fold), having the upper part of a leaf curved back, and applied to the lower (50).

REPLUM (Lat. a door-cheek), the process left after

the valves of certain dehiscent fruits have fallen away, as in cruciferous plants (242, 244).

RESUPINATE (*resupinatus*, Lat. lying on the back), inverted by twisting of the stalk.

RETICULATE (*rete*, Lat. a net), having the appearance of network (68).

RETICULUM (*reticulatus*, Lat. made like a net), the fibrous *débris* at the base of the petioles of some palms.

RETINACULUM (Lat. a stay or holdfast), a viscid stigmatic gland.

RETROSE (*retrorsus*, Lat. backwards), directed backwards.

RETUSE (*retusus*, Lat. blunted), having the centre of a rounded end depressed (129).

REVOLUTE (*revolutus*, Lat. rolled back), rolled backwards.

REVOLUTIVE (*revolutus*, Lat. rolled back), in vernation, when the edges are rolled back spirally (56).

RHIZINÆ (*rhiza*, Gr. a root), minute fibrils on the under surface of the thallus of some lichens, by which they adhere (264).

RHIZOCARPOUS (*rhiza*, Gr. a root; *karpos*, fruit), with a perennial root and annual stem.

RHIZOGENS (*rhiza*, Gr. a root; *gennao*, I produce), parasitic plants, growing on the roots of others; the third class in Dr. Lindley's system.

RHIZOME (*rhiza*, Gr. a root), a prostrate or subterranean stem, emitting leaves at the growing-point, and rootlets along the under surface (36).

RHIZOMORPHOID (*rhiza*, Gr. a root; *morphē*, form), root-like in form.

RHOMBOID (*rhombus*, Lat. a rhomb), a quadrangular figure, with equal sides and unequal angles (87).

RIMOSE (*rima*, Lat. a cleft), marked by chinks or cracks.

RINGENT (*ringens*, Lat. grinning), applied to labiate corollas with widely-separated lips (173).

ROSACEOUS (*rosa*, Lat. a rose), arranged as the petals of a single rose (179).

ROSTELLATE (*rostellum*, Lat. a little beak), having a little elongated neck.

ROSTRATE (*rostrum*, Lat. a beak), terminating with a beak.

ROTATE (*rota*, Lat. a wheel), a monopetalous corolla, with a short tube and spreading limb (174).

ROTATION (*rotatio*, Lat. a wheeling about), the circulation of fluids in cells.

RUGOSE (*ruga*, Lat. a wrinkle), covered with wrinkled lines, the interspaces being convex.

RUNCINATE (*runcina*, Lat. a large saw), toothed like a pit-saw, with the teeth inclining backwards (73).

RUNNER, a slender prostrate stem, rooting at the nodes (35).

RUPTURING (*ruptus*, Lat. broken), an irregular mode of bursting.

S.

SAC of the embryo (*saccus*, Lat. a sack), applied to ovules, the vesicle of nucleus within which the embryo is formed.

SACCIFORM (*saccus*, Lat. a sack), like a bag.

SAGITTATE (*sagitta*, Lat. an arrow), shaped like an arrow-head (93).

SAMARA (*samera*, Lat. an elm-seed), a winged, indehiscent fruit (227).

SAP (*sapa*, Lat. sodden wine), the juice of a plant.

SARCOCARP (*sarx*, Gr. flesh; *karpos*, fruit), a fleshy mesocarp.

SARCODERM (*sarx*, Gr. flesh; *derma*, skin), a layer between the outer and inner integuments of a seed.

SARMENTUM (Lat. a twig), the slender woody stem of climbing plants.

SCABROUS (*scaber*, Lat. rough), rough.

SCALARIFORM (*scala*, Lat. a ladder), tissue barred or striated, like the steps of a ladder (16).

SCALES, rudimentary or metamorphosed leaves (60).

SCANDENT (*scandens*, Lat. climbing), climbing.

SCAPE (*scapus*, Lat. a stem), a long naked radical peduncle.

SCARIOUS (*scarus*, Lat. a kind of fish), with a thin, dry, shrivelled appearance.

SCLEROGEN (*sklēros*, Gr. hard; *gennao*, I generate), a hard deposit in cells, as in the vegetable ivory nut.

SCORPIOID (*skorpios*, Gr. a scorpion), rolled in a circinate manner, as in a cincinnus (153).

SCROBICULATE (*scrobiculus*, Lat. a little ditch), marked with little pits or depressions.

SCUTATE (*scutum*, Lat. a shield), buckler-shaped.

SCUTELLÆFORM (*scutellum*, Lat. a platter), shaped like a shield or dish.

SCUTELLUM (Lat. a platter), a round flattened lichen-shield, with a rim derived from the thallus, as in *Parmelia* (262).

SECTILE (*sectilis*, Lat. easy to be cut), cut into small pieces.

SECRETION (*secretio*, Lat. a separating), an abstracted portion of a nutritive fluid.

SECUND (*secundus*, Lat. second), having all the flowers or leaves turned towards one side.

SEMI (Lat. half), when employed as an affix, it signifies half or part.

SEMIANATROPAL. (*See* HEMIANATROPAL.)

SEPALs (by conversion of *petalon*, Gr. to *sepalon*), the divisions of a calyx.

SEPTATE (*septum*, Lat. a hedge), having partitions or divisions.

SEPTICIDAL (*septum*, Lat. a hedge; *cædo*, I cut), a mode of dehiscence along the sutures of the carpels, dividing the dissepiments (220).

SEPTIFRAGAL (*septum*, Lat. a hedge; *frango*, I break), a mode of dehiscence along the lines of the sutures and from the dissepiments (218).

SEPTUM (Lat. a hedge), a partition in an ovary or fruit.

SERICEUS (*sericus*, Lat. made of silk), silky, with fine hairs.

SERRATE (*serra*, Lat. a saw), toothed in a saw-like manner (71).

SESSILE (*sessilis*, Lat. sitting), sitting close ; without a stalk.

SETA (Lat. a bristle), a bristle, stiff hair, or straight prickle ; the stalk bearing the theca of mosses.

SILICULE (*silicula*, Lat. a little pod), a siliqua as broad as long (242).

SILIQUA (Lat. a bean-pod), a long pod with two valves, applied to a replum by their faces (244).

SINISTORSE (*sinister*, Lat. the left hand), twining to the left.

SINUATE (*sinuatus*, Lat. crooked), with a waved margin (78).

SOBOLES (Lat. a shoot), a creeping underground stem (37).

SOREDIA (*soros*, Gr. a heap), powdery masses of gonidia on the surface of a lichen-thallus.

SORI (*soros*, Gr. a heap), clusters of spore-cases in ferns (287).

SOROSIS (*soros*, Gr. a heap), a compound fleshy fruit, resulting from many flowers, as the pine-apple.

SPADIX (Lat. a musical instrument), a spike inclosed within a spathe (145).

SPATHE (*spatha*, Lat. flowery branch of the date-palm), a large bract, sheathing an inflorescence (145).

SPATHULATE (*spathula*, Lat. a spoon), spoon-shaped (84).

SPECIES (Lat. form), an assemblage of forms, which, it is assumed, might have emanated from one or more individuals ; a group of individuals without

deviation from each other, except such as might result from accidental circumstances.

SPERMAGONES (*sperma*, Gr. a seed ; *gonē*, generation), thalline capsules or cysts in lichens containing spermatia.

SPERMATIA (*sperma*, Gr. a seed), linear bodies found in the spermagones of lichens, supposed to be possessed of a fertilizing power.

SPERMATOZOIDS (*sperma*, Gr. a seed ; *zoon*, an animal), thread-like bodies, possessed of molecular motion, found in Algæ and other cryptogamic plants, supposed to possess a fecundative power (285 *b*).

SPERMODERM (*sperma*, Gr. seed ; *derma*, skin), the testa of a seed.

SPHÆRENCHYMA (*sphaira*, Gr. a sphere ; *cheuma*, tissue), spherical cellular tissue.

SPHALEROCARPUM (*sphallo*, Gr. I deceive ; *karpōs*, fruit), a small indehiscent one-seeded fruit, with a fleshy complex pericarp, as in *Hippophaë*.

SPHEROIDAL (*sphairioides*, Gr. spherical), a solid figure, nearly spherical.

SPICULES. (See **STERIGMATA**.)

SPIKE (*spica*, Lat. an ear of corn), an inflorescence of sessile flowers on a rachis (141).

SPIKELET (diminutive of *spike*), the secondary spikes or locustæ of grasses (149).

SPONGIOLES (diminutive of *spongia*, Lat. a sponge), the absorbing extremities of roots.

SPORANGIUM (*spora*, Gr. a seed ; *aggos*, a vessel), a spore-case, with spores produced in the centre.

SPORES, SPORULES (*spora*, Gr. a seed), the reproductive bodies of Cryptogams, analogous to seeds.

SPORIDIA (*spora*, Gr. a seed ; *eidon*, resemblance), reproductive cells produced within asci or sporangia, from a transformation of their endochrome.

SPOROPHORES (*spora*, Gr. a seed ; *phero*, I bear), cells surmounted by fertile spicules (also *Basidia*).

SPURRED. (See CALCARATE.)

SQUAMATE, SQUAMOSE (*squama*, Lat. a scale), scale-like, scaly.

SQUAMULÆ (*squama*, Lat. a scale), membranous scales sometimes found in the flowers of grasses.

SQUARROSE (*squarrosus*, Lat. rough), rough, with projecting or deflexed scales.

STAMEN (Lat. a distaff), the male organ of flowers (♂) (186).

STAMINIDIA. (See ANTHERIDIA.)

STAMINIFEROUS (*stamen*, Lat. a stamen ; *fero*, I bear), stamen-bearing.

STANDARD. (See VEXILLUM.)

STELLATE (*stella*, Lat. a star), starlike, radiating (8, 43).

STEM, the ascending axis of plants.

STEM, SUBTERRANEAN, a prostrate or underground stem.

STERIGMATA (*sterigma*, Gr. a prop) (281), points or threads to which spores or spermatia are attached (262 c).

STERILE (*sterilis*, Lat. barren), incapable of producing seeds.

STICHIDIA (*stichos*, Gr. a rank; *eidos*, appearance), a free spore-case in Algals, the spores arranged in rows (260).

STIGMA (*stigma*, Gr. a point), that portion of the style to which the discharged pollen adheres (194).

STIGMATA (Lat. little points), points of the basidia of some fungi.

STIPE (*stipes*, Lat. a trunk of a tree), the petiole of ferns; stem of Agarics (276 s).

STIPELS (diminutive of *stipula*), secondary stipules at the base of leaflets.

STIPITATE (*stipes*, Lat. a stem), stalked.

STIPULES (*stipula*, Lat. a little straw), processes developed at the base of the petiole (135, 136).

STOLE (*stolo*, Lat. a shoot), a lax trailing and rooting branch.

STOMATES (*stoma*, Gr. the mouth), respiratory apertures in the epidermis (19, 20).

STRAP-SHAPED. (See LIGULATE.)

STRIATED (*striatus*, Lat. channelled), streaked with longitudinal lines.

STRIGOSE (*striga*, Lat. a row or ridge), covered with sharp rigid hairs.

STROBILUS (Lat. a fir-cone), an imbricated scaly inflorescence; a cone (238).

STROMA (*stroma*, Gr. a coverlet), the substance in which the perithecia of some fungi are immersed.

STROMBULIFORM (*strombus*, Lat. a kind of shell; *forma*, shape), twisted in a long spire (234).

STROPHIOLES (*strophiolum*, Lat. a little garland), aril-like appendages, which grow from the raphe in the fruits of *Viola*, &c.

STRUMA (Lat. a wen), a swelling at the base of the thecæ of some urn-mosses.

STUFFED, applied to the stems of fungi when filled with a spongy mass.

STUPOSE (*stupa*, Lat. tow), covered with long hairs.

STYLE (*stylus*, Lat. a pin), the prolongation of an ovary bearing the stigma (201).

STYLOPODIUM (*stulos*, Gr. a column; *pous*, a foot) a fleshy disk, bearing the styles in Umbellifers.

SUBEROUS (*suber*, Lat. cork), corky; the epiphlœum or external layer of bark.

SUBICULUM, the filamentous mycelium of *Sphæriæ*.

SUBULATE (*subula*, Lat. an awl), awl-shaped (79).

SUFFRUTICOSE (*sub*, Lat. under; *frutex*, a shrub), with the habit of a small shrub.

SULCATE (*sulcus*, Lat. a furrow), furrowed.

SUPERIOR (Lat. that is above), when one organ is placed above, and free of another.

SUPERVOLUTE (*super*, Lat. upon; *volutus*, rolled) rolled upon itself in vernation (54). (See CONVOLUTE.)

SUPRADECOMPOUND (*supra*, Lat. above), very much divided and subdivided.

SUSPENDED (*suspensus*, Lat. hung up), applied to ovules attached between the base and the apex of the ovary (214).

SUSPENSOR (*suspensus*, Lat. hung up), the cord suspending the embryo from the foramen in some seeds.

SUTURE (*sutura*, Lat. a seam), line of junction of two parts.

SYCONUS (*sukon*, Gr. a fig), such receptacles as that of the fig, which inclose the fruits (240).

SYNCARPIUM (*sun*, Gr. together; *karpos*, fruit), a fruit formed by the confluence of the carpels of a multiple ovary into a solid mass, with a slender receptacle.

SYNCARPOUS (*sun*, Gr. together; *karpos*, fruit), having a fruit with consolidated carpels (217).

SYNGENESIOUS (*sun*, Gr. together; *genesis*, origin), with the anthers united into a tube.

SYNOCHREATE (*sun*, Gr. together; *ochrea*, a boot), when stipules unite on the opposite side of the stem, inclosing it in a sheath (134).

T.

TAPHRENCHYMA (*taphros*, Gr. a pit; *cheuma*, tissue).
(See BOTHRENCHYMA.)

TAP-ROOT, a simple conical root, with branches proceeding from it.

TARTAREOUS (*tartarum*, Lat. the tartar crust on wine-vessels), with a rough and crumbling surface.

TENDRIL, a twining, threadlike process, by which a climbing plant supports itself (130).

TERMINAL (*terminus*, Lat. an end), proceeding from the end.

TERNATE (*ternus*, Lat. three and three), arranged by threes (110).

TESTA (Lat. a pot), the skin of a seed.

TESTICULATE, when two nearly spherical bodies are in proximity, as in the roots of some orchids (27).

TETRADYNAMOUS (*tetra*, Gr. four; *dunamis*, power), when, of six stamens, two are longer than the others.

TETRANDROUS (*tetra*, Gr. four; *anēr*, man), when a flower has four stamens.

TETRASPORE (*tetra*, Gr. four; *spora*, seed), reproductive bodies, composed of four spores or germs, found in Algæ (259).

THALAMIFLORAL, **THALAMIFLOROUS** (*thalamus*, Lat. a marriage-bed), having the petals and stamens inserted on the thalamus or receptacle. (See **HYPOGYNOUS**.)

THALAMIUM (*thalamos*, Gr. a receptacle), the layer of reproductive cells in the apothecia of lichens (262 *b*).

THALAMUS (*thalamus*, Lat. a marriage-bed), the receptacle of a flower.

THALLOGENS (*thallos*, Gr. a frond; *gennao*, I produce), cellular plants, bearing their fructification on a thallus.

THALLOPHYTES (*thallos*, Gr. a frond; *phuton*, a plant). (See **THALLOGENS**.)

THALLUS (*thallos*, Gr. a frond), the vegetative system of lichens, combining root, stem, and leaves in one organ (262 *a*).

THECA (*thekē*, Gr. a box), a spore-case (284, 287).

THYRSUS (an ancient staff), a branched raceme or panicle, in which the middle branches are longer than the upper and lower. A succulent and dense panicle.

TISSUE, the material composing elementary organs.

TOMENTOSE (*tomentum*, Lat. flocks of wool), downy, with short hairs.

TOMIPAROUS (*tomē*, Gr. a cutting), producing spores by division.

TORSIVE (*tortus*, Lat. twisted), twisted spirally.

TORULOSE (*torulus*, Lat. a ringlet), when a cylindrical body is swollen and restricted alternately.

TORUS (Lat. a bed). (See THALAMUS.)

TRACHEA, TRACHENCHYMA (*trachea*, Lat. a windpipe), spiral vessels (21, 22).

TRAMA (Lat. yarn), the substance intermediate between the hymenium in the gills of Agarics or pores of Polyporus.

TRAPEZIFORM (*trapezion*, Gr.), a quadrangular figures with unequal sides.

TREMELLOID (*tremo*, Lat. I tremble), jelly-like in substance.

TRIADELPHOUS (*treis*, Gr. three; *adelphos*, brother), having the stamens in three bundles (191).

TRIANDROUS (*tres*, Lat. three; *anēr*, man), when a flower has three stamens.

TRICHOTOMOUS (*treis*, Gr. three; *temno*, I cut), dividing in threes.

TRICOCCOUS (*treis*, Gr. three; *kokkos*, a seed), a

fruit consisting of three elastically dehiscent cocci (224).

TRIDENTATE (*tres*, Lat. three ; *dens*, a tooth), having three tooth-like divisions (104).

TRIFID (*tres*, Lat. three ; *fissus*, cleft), thrice cleft midway to the base (97).

TRIFOLIATE (*tres*, Lat. three ; *folium*, a leaf), a compound leaf of three leaflets.

TRIGONOUS (*treis*, Gr. three ; *gonia*, angle), applied to triangular stems, with three convex faces (40).

TRILOBATE (*tres*, Lat. three ; *lobus*, a lobe), three-lobed (97).

TRICEOUS (*treis*, Gr. three ; *oikos*, a house), with male, female, and hermaphrodite flowers, each on different plants (♂ ♂ ♀).

TRIPARTITE (*tres*, Lat. three ; *pars*, a part), parted to the base in three divisions.

TRIPINNATE (*tres*, Lat. three ; *penna*, a feather), when the pinnæ of a bipinnate leaf are again pinnate (118, 119).

TRIQUETROUS (*triquetrum*, Lat. a triangle), applied to triangular stems with three concave faces (39).

TRITERNATE (*tres*, Lat. three ; *ternus*, three and three), a twice-ternate petiole again divided in threes, each subdivision bearing a leaflet.

TROPIS. (See CARINA.)

TRUNCATE (*truncus*, Lat. a stump), terminating very abruptly.

TRYMA, a fruit resembling a drupe, with a fleshy or

fibrous epicarp and a bony endocarp, one-celled and one-seeded by abortion (228).

TUBER (Lat. an excrescence), a swollen succulent internode of an underground stem (34).

TUBERCLED (*tuberculum*, Lat. a pimple), covered with warts.

TUBERCULE (*tuberculum*, Lat. a pimple), succulent expansions of certain roots (27).

TUBULAR (*tubus*, Lat. a tube), with the edges united into a tube; hollow and cylindrical (171).

TURBINATE (*turbo*, Lat. a top), top-shaped (26).

TURIO (Lat. a young branch), a young shoot covered with scales, as in asparagus.

TWISTED, applied to æstivation when the parts are contorted or twisted (58).

TYMPANUM (Lat. a drum), a membrane closing the thecæ of urn-mosses.

U.

UMBEL (*umbella*, Lat. a tuft of fennel), an inflorescence in which the pedicels all proceed from the top of the peduncle (152, 147).

UMBILICATE (*umbilicus*, Lat. the navel), having a central depression.

UMBILICUS (Lat. the navel), the hilum of a seed.

UMBO (Lat. a boss), a central elevation like the boss of an ancient buckler.

UMBONATE (*umbo*, Lat. a boss), furnished with a boss or central elevation (282).

UMBRACULIFORM (*umbraculum*, Lat. an umbrella), umbrella-shaped.

UMBRACULUM (Lat. an umbrella), the cap borne on the seta of *Marchantia* (288).

UNCINATE (*uncus*, Lat. a hook), hooked, as some hairs (47).

UNEQUALLY-PINNATE, pinnate with a terminal leaflet (105). (See IMPARI-PINNATE.)

UNGUICULATE (*unguis*, Lat. a nail), clawed; applied to stalked petals (185).

UNGUIS (Lat. a nail), the stalk of a petal (185).

UNILATERAL (*unus*, Lat. one; *latus*, a side), one-sided.

UNILOCULAR (*unus*, Lat. one; *loculus*, a little place), one-celled.

UNISEXUAL (*unus*, Lat. one; *sexus*, a sex), bearing only male or female organs.

UNLINING, a separation of parts originally united.

URCEOLATE (*urceolus*, Lat. a little pitcher), a monopetalous corolla with a contracted orifice (177).

URN, the theca or spore-case of mosses (284 *f r*).

UTRICLE (*utriculus*, Lat. a little bottle), a superior, membranous, one-seeded fruit; an air-bladder or cell.

UVA (Lat. a grape), applied to such succulent indehiscent fruits as have a central placenta.

V.

VAGINA (Lat. a scabbard, a sheath), a sheath formed by the petiole around the stem (133).

VAGINULE (diminutive of *vagina*), sheath at the base of the seta of urn-mosses.

VALVATE (*valvæ*, Lat. doors), united by the margins only (156).

VALVES (*valvæ*, Lat. doors), distinct portions of organs which become detached by dehiscence in a definite manner.

VASCULAR (*vas*, Lat. a vessel), containing vessels; applied to tissue in which the length much exceeds the breadth.

VASCULUM (Lat. a little vessel), a pitcher-shaped leaf. (*See ASCIDIUM.*)

VEIL, in fungi, the partial covering of the stem or margin of the cap; applied also to the indusium of ferns.

VEINS, the fibro-vascular tissue of leaves.

VELLUS (Lat. a fleece), the stipe of certain fungi.

VENATION (*vena*, Lat. a vein), the arrangement of veins in a leaf.

VENTRAL (*venter*, Lat. the belly), used in contradistinction to dorsal.

VENTRICOSE (*venter*, Lat. the belly), unequally swelling on one side, or swelling in the middle.

VERMICULAR (*vermiculare*, Lat. worm-like), worm-shaped.

VERNATION (*vernatio*, Lat. a renewing), the arrangement of leaves in the bud.

VERRUCÆ (Lat. warts), warts or glandular elevations, wart-like sessile apothecia of some lichens (269).

VERRUCÆFORM (*verrucæ*, Lat. warts), shaped like warts.

VERRUCOSE (*verrucæ*, Lat. warts), covered with warts.

VERSATILE (*versatilis*, Lat. that turns easily), swinging freely, as some anthers (186 *a*).

VERSIFORM (*verto*, Lat. I turn about), varied in form.

VERTICEL (*verticellus*, Lat. a whorl), a whorl or circle of bodies around a stem (124).

VERTICELLATE (*verticellus*, Lat. a whorl), in whorls or verticels.

VESICLE (*vesicula*, Lat. a little bladder), a bladder-like cavity.

VESICULAR (*vesicula*, Lat. a little bladder), composed of cells.

VEXILLARY (*vexillum*, Lat. a standard), in æstivation, as of a pea-flower (162—*v* vexillum, *a* alæ, *c* carina).

VEXILLUM (Lat. a banner), the standard or erect petal of pea-flowers (181 *v*).

VILLOSE (*villus*, Lat. wool), covered with long weak hairs, or down.

VITELLUS (Lat. the yolk of an egg), the thickened sac within the nucleus containing the amnios.

VITICULA (*vitis*, Lat. a vine), a trailing stem, as of a cucumber.

VITÆ (*vitta*, Lat. a fillet), narrow ducts or canals in the coat of the fruits of Umbellifers containing oil (243 *b*).

VOLUBILE (Lat. easily turned), twining spirally.

VOLUTE (*volutus*, Lat. rolled), rolled up in any direction.

VOLVA (Lat. a wrapper), a general wrapper in fungi, sometimes membranous, sometimes gelatinous (276 v).

W.

WART, a firm glandular excrescence on the surface.
(See VERRUCA.)

WHORL. (See VERTICEL, 124.)

WINGED, furnished with membranous expansions.

WINGS. (See ALÆ.)

X.

XANTHOPHYLE (*xanthos*, Gr. yellow; *phullon*, a leaf), the yellow colouring matter of plants.

XIPHOPHYLLOUS (*xiphion*, Gr. a sword; *phullon*, a leaf), having ensiform leaves.

XYLOCARP (*xulon*, Gr. wood; *karpos*, fruit), a hard and woody fruit.

Z.

ZOOSPERM } (*zōon*, Gr. an animal), locomotive spores
ZOOSPORES } of some Algæ.

ILLUSTRATIONS.

The numbers in the alphabet refer to corresponding numbers in the Illustrations.

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ELEMENTARY TISSUES.



1.
Cells.



2.
Spheroidal cells
with nuclei.



3.
Cell with
nucleus and
nucleoli.



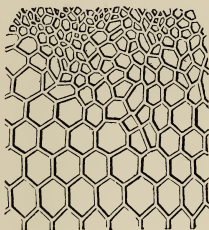
4.
Muriiform
cells.



5.
Pitted
tissue.



6.
Hexagonal cells.



7.
Hexagonenchyma.



8.
Stellate cells.



9.
Fibro-cellular tissue.
Inenchyma.



10.
Cell increase by
fissuration.



11.
Cell increase by
gemmation.

ELEMENTARY TISSUES—*continued.*



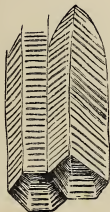
12.
Woody tissue or
Pleurenchyma.



13 and 14.
Glandular woody Tissue.



15.
Raphides.



16.
Scalariform vessels.



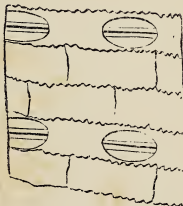
17.
Laticiferous vessels,
Cinenchyma.



18.
Starch granule.



19.
Epidermal cells with stomata
(*Exogen*).

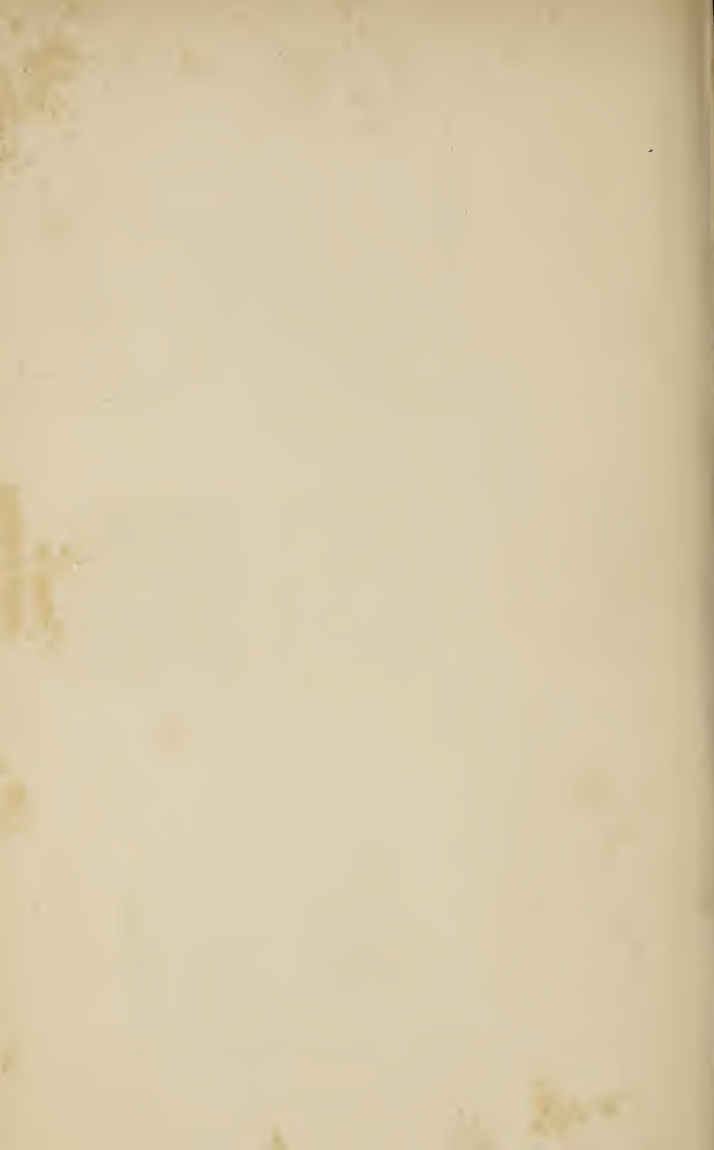


20.
Epidermal cells with
stomata (*Endogen*).



21. 22.
Simple Compound
spiral. spiral.





ROOTS.



23.
Conical.



24.
Fusiform.



25.
Moniliform.



26.
Napiform or turbinate.



27.
Tubercular or testicular.



28.
Fibrous.



29.
Fasciculated.

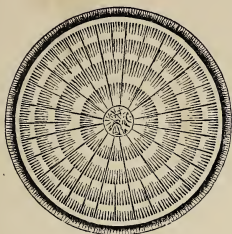


30.
Nodulose.



31.
Annulated.

STEMS.



32.
Exogen.



33.
Endogen.



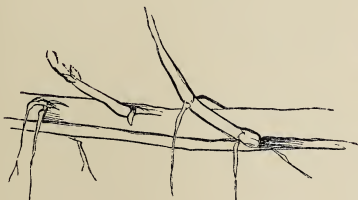
34.
Tuber.



35.
Flagellum or runner.



36.
Rhizome.



37.
Soboles.



38.
Acrogen.

STEMS—*continued.*



39.
Triquetrous.



40.
Trigonus.



41.
Ancipital.

HAIRS.



42.
Simple hairs.
Conenecyema.



43.
Stellate hairs.



44.
Capitate
hairs.



45.
Peltate hair.



46.
Clavate.



47.
Uncinate.



48.
Barbed or
Glochidiate.



49.
Sting.

LEAF-BUDS—VERNATION.



50.
Reclinate.



51.
Circinate.



52.
Conduplicate.



53.
Plicate.



54.
Convolute.



55.
Involute.



56.
Revolute.



57.
Valvate.



58.
Twisted.



59.
Induplicate.



60.
Imbricated.



61.
Equitant.



62.
Obvolute.

SCALY BUDS.



63.
Bulbils.

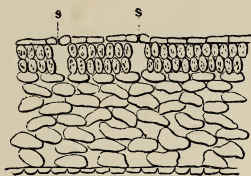


64.
Bulb.



65.
Corm.

LEAVES.



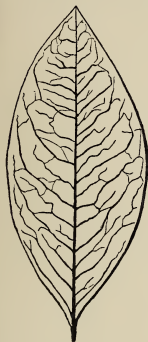
66.

Section of leaf with stomata and lacunæ.



67.

Feather-veined.



68.

Net-veined.



69.

Parallel-veined.



70.

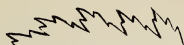
Furcate-veined.

LEAVES—CIRCUMSCRIPTION.



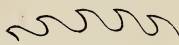
71.

Serrate.



72.

Doubly serrate.



73.

Runcinate.



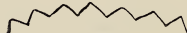
74.

Crenate.



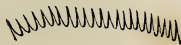
75.

Dentate.



76.

Acute crenate.



77.

Ciliate.



78.

Sinuate.

LEAF-FORM—SIMPLE.



79.
Subulate.



80.
Linear.



81.
Lanceolate.



82.
Ovate.



83.
Obovate.



84.
Spathu-
late.



85.
Oval or
Elliptical.



86.
Panduriform.



87.
Rhomboidal.



88.
Acinaciform.



89.
Orbicular. Peltate.



90.
Reniform.



91.
Cordate.



92.
Ob-cordate.



93.
Sagittate.



94.
Auriculate.



95.
Hastate.



96.
Bifid. Bilobate.



97.
Trilobate. Trifid.

LEAF-FORM—SIMPLE—*continued.*



98.
Quinquangular.



99.
Palmatifid.



100.
Pedatisect.



101.
Lyrate.



102.
Pinnatifid.



103.
Acicular or
aciculate leaves.



104.
Tridentate.
Cuneate.

LEAF-FORM—COMPOUND.



105.
Impari-pinnate.



106.
Alternately
pinnate.



107.
Oppositely
pinnate.



108.
Quadrijugate
abruptly pinnate.

LEAF-FORM—COMPOUND—*continued.*



109.
Digitate.



110.
Ternate.



111.
Biternate.



112.
Conjugate.



113.
Biconjugate.



114.
Bijugate.



115.
Abruptly
pinnate.



116.
Bipinnate, pinnae
abruptly pinnate.



117.
Bipinnate.



118.
Tripinnate.



119.
Tripinnate.

LEAF ATTACHMENT.



120.
Amplexicaul.



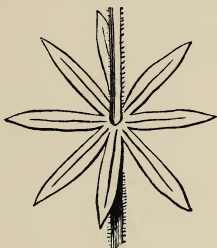
121.
Perfoliate.



122.
Decurrent.



123.
Connate.



124.
Verticel or whorl.



125.
Dimidiate.

LEAF TERMINATION.



126.
Apiculate.



127.
Acuminate.



128.
Emarginate.



129.
Retuse.

STIPULES, &c.



130.
Cirrus or
Tendrill.



132.
Pitcher or ascidium.



133.
Vagina.



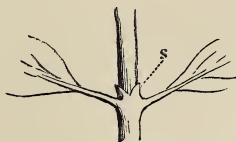
131.
Ascidium.



134.
Synochreate.



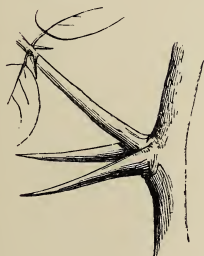
135 s.
Stipule.



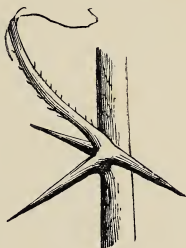
136 s.
Interpetiolar stipules.



137.
Glumes and palae.



138.
Stipularty horns.



139.
Pulvinate thorns.



140.
Pericladium.

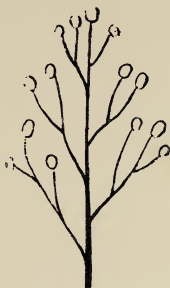
INFLORESCENCE.



141.
Spike.



142.
Raceme.



143.
Panicle.



144.
Corymb.



145.
Spathe and Spadix.



146.
Glomerule.



147.
Compound umbel.



148.
Capitulum.



149.
Locustæ.



150.
Cyme.

INFLORESCENCE—*continued.*



151.
Cyme.



152.
Umbel.



153.
Scorpioid cyme or cincinnus.



154.
Capitulum.

ÆSTIVATION.



155.
Induplicate.



156.
Valvate.



157.
Imbricative.



158.
Contorted or
twisted.



159.
Alternate.



160.
Quincuncial.



161.
Plicative.



162.
Vexillary.
v. Vexillum.
a. Alæ.
c. Carina.

CALYX.



163.
Calcarate calyx.



164.
Pappus or coma.



165.
Calyptra.



166.
Gatea.

COROLLAS.



167.
Polypetalous corolla.



168.
Campanulate.



169.
Hypocrateriform.

COROLLAS—continued.



170.
Infundibuliform.



171.
Tubular.



172.
Digitaliform.



173.
Ringent.



174.
Rotate.



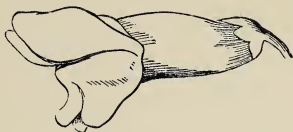
175.
Ligulate.



176.
Calceolate.



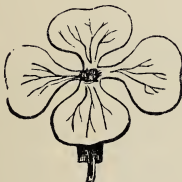
177.
Urceolate.



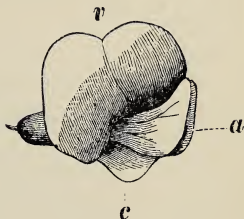
178.
Personate.



179.
Rosaceous.



180.
Cruciate.



181.
Papilionaceous.
v. Vexillum. a. Alæ. c. Carina.

COROLLAS—continued.



182.
Gibber.



183.
Corona.



184.
Labellum.



185.
Unguiculate
petal.

STAMENS.



a



b



c

186.
a. Versatile.
b. Innate.
c. Adnate.



187.
Distractile.



188.
Columna.
Gynostemium.



189.
Didynamous.

ANTHERS.



190.
Diadelphous.



191.
Triadelphous



192.
Anfractuose or
Gyrose anther.



193.
Pollen-grains.



194.
Stigma.

ANTHERS—continued.



195.
Hypogynous.



196.
Perigynous.



197.
Epigynous.



198.
Epipetalous.



199.
Petal with portion of disk attached.

O V A R Y.



200.
Apocarpous
ovary.



201.
Syncarpous.



202.
Central
placenta.



203.
Parietal
placenta.



204.
Basilar
style.



205.
Ortho-
tropal.



206.
Camp-
tropal.



207.
Anatropal.



208.
Campylo-
tropal.



209.
Lycotropal.



210.
Semiana-
tropal.

O V A R Y—continued.



211.
Erect.



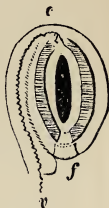
212.
Ascending.



213.
Inverted.

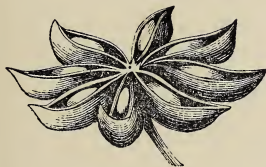


214.
Suspended.



215.
c. Chalaza.
f. Foramen.
r. Raphe.

F R U I T S.



216.
Apocarpous fruit.



217.
Syncarpous fruit.



218.
Septifragal.



219.
Loculicidal.



220.
Septicidal.



221.
Achæmium.



222.
Drupe and section.



a



b

223.
a. Bacca or Berry.
b. Section of ditto.

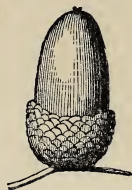
FRUITS—*continued.*



224.
Tricoccus.



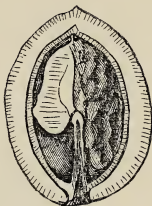
225.
Carpophore.



226.
Glans.



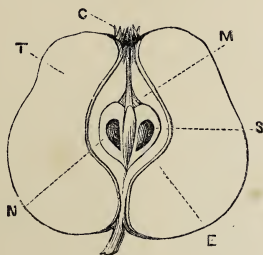
227.
Samara.



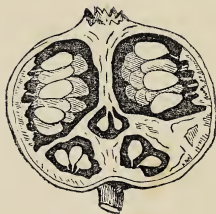
228.
Tryma.



229.
Etærio.



230
Pome. C. Stamens. T. Calyx tube.
E. Epicarp. M. Mesocarp.
N. Endocarp. S. Seeds.



231.
Section of Balausta.

FRUITS—continued.



232.
Follicle.



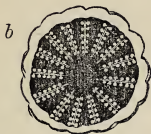
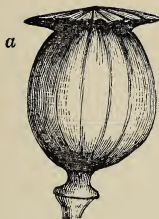
233.
Legume.



234.
Intorted or
Strombuliform legume.



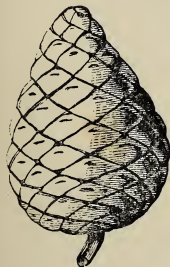
235.
Helicoid or
Cochleate legume.



236.
Capsule and section.



237.
Pyxidium.



238.
Strobilus or cone.



239.
Galbulus.



240.
Section of
Syconus.



241.
Section of
Cynarrhodon,
or Discocarp.



FRUITS—continued.



244.
Siliqua.



242.
Silicula.



a. Cremocarp
borne on a
Carpophore.



243.
b. Section of
Cremocarp
showing vittæ.



245.
Carcerule.



246.
Gynobase.



247.
Bicornute fruit of *Trapa bicornis*.



248.
Mace or arillus
around nutmeg.

COTYLEDONS.



249.
Conduplicate.



250.
Reclinate.



251.
Convolute.



252.
Circinate.



253.
Contortuplicate.

COTYLEDONS—continued.



254.
Accumbent.



255.
Incumbent.



256.
c. Cotyledon.
r. Radicle.
q. Plumule.

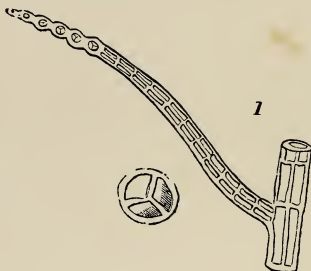


257.
Endorhizal.
c. Coleorhiza.

CRYPTOGAMIC ORGANS.



258.
1. Portion of Branchlet
with Ceramidium.
2. Ditto magnified.



259.
1. Portion of Branchlet
with Tetraspores.
2. Tetraspore magnified.



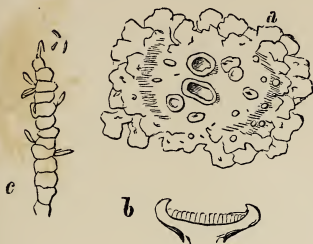
260.
Carpoecolonium. Stichidia.



261.
Zoospores.

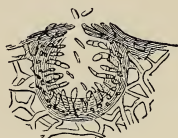


CRYPTOGAMIC ORGANS—*continued.*



262.

- a.* Thallus with scutellæ.
b. Thalamium.
c. Sterigmata with Spermata.



263.

- Section of Spermatogone.



264.

- Part of Thallus with
Rhizinæ or Fixuræ.



265.

- Section of Pycnides.



266.

- Pelta or Orbilla.



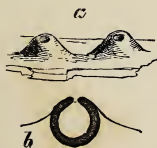
267.

- Podetia
bearing
Capitulum.



268.

- a.* Capitulum.
b. Section of do.



269.

- a.* Verruca.
b. Section of do.



270.

- Section of
Patella.

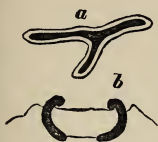


271.

- Ardellæ.
Magnified section.



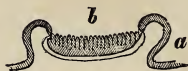
CRYPTOGAMIC ORGANS—*continued.*



272.
a. Lirella.
b. Section of do.

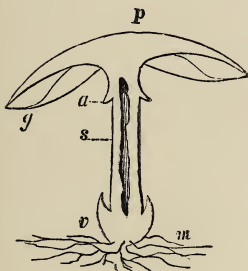


273.
Section of Angiocarpous
Apothecium.
a. Exciple.
b. Thalamium.

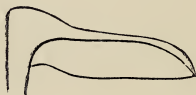


274
Section of Gymnocarpous
Apothecium.
a. Exciple.
b. Thalamium.

F U N G I.



276.
p. Pileus. s. Stipe. a. Ring.
g. Gills. v. Volva. m. Mycelium.



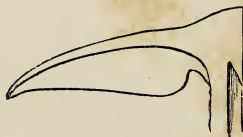
275.
Adnexed.



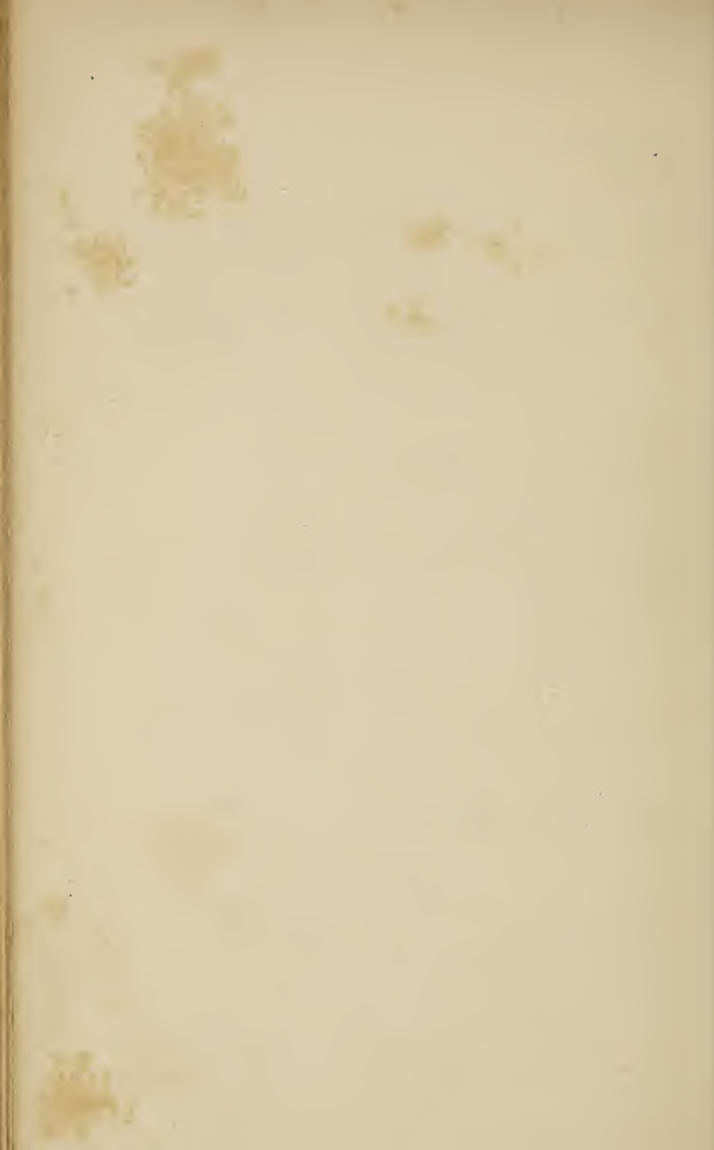
277.
Free.



278.
Remote.



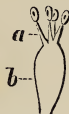
279.
Emarginate.



F U N G I—continued.



280.
Decurrent.



281.
a. Sterigmata.
b. Basidia.



282.
Fistulose stem.
Umbonate pileus.

M O S S E S.

1



2



3



4

284.

1. Theca of Split Moss.
2. Theca of Urn Moss with calyptra.
3. Operculum and Peristome.
4. Elaters with spores.



285.

- a. Paraphyses.
- b. Phytozoa.



283.
Peristome.



286.
Cyathus.

F E R N S.



1



3



2

287.

1. Frond with sori.
2. Theca of fern.
3. Spore.



288.

Umbraculum.



289.

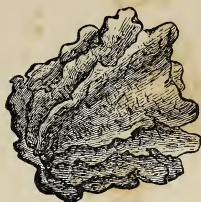
Indusium.



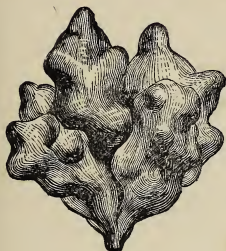
G A L L S.



290.
Oak gall and section.



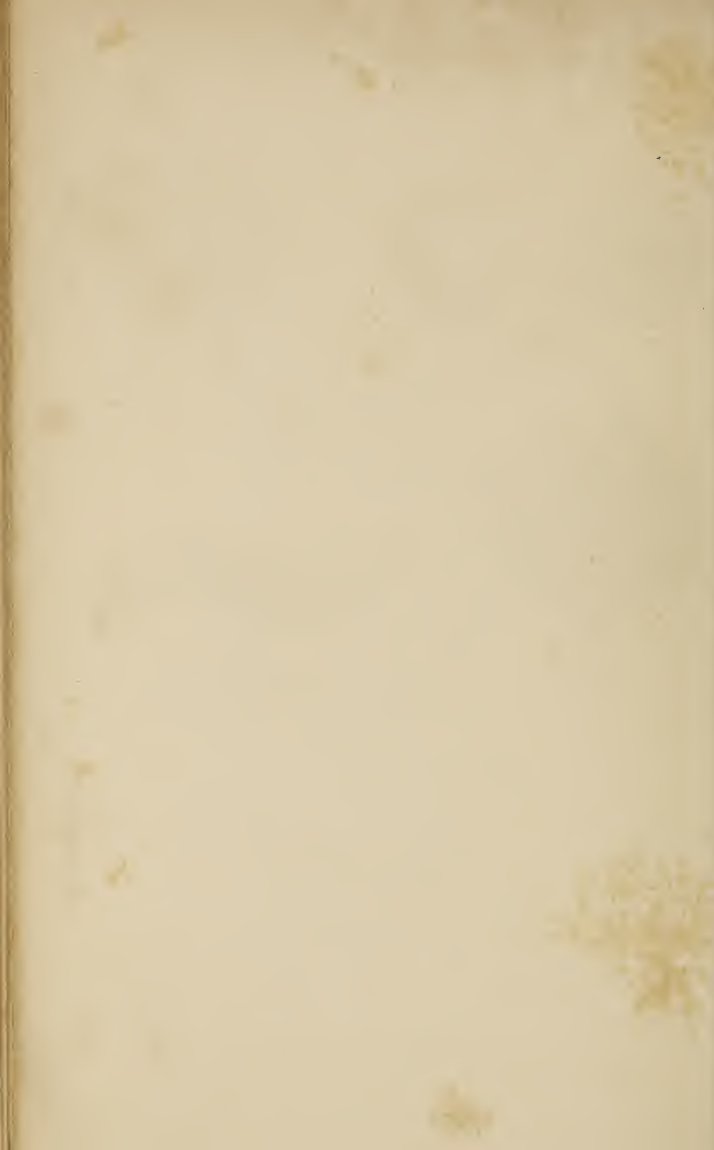
291.
Cupula gall.



292.
Leaf gall.



293.
Horny gall.



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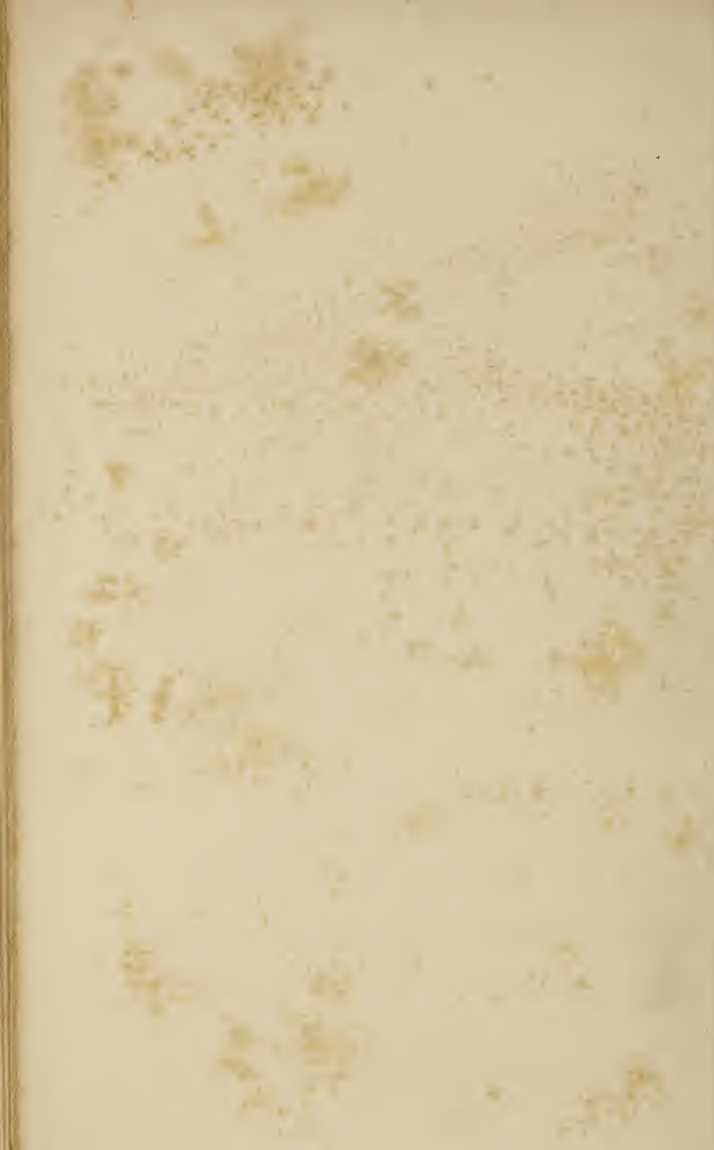
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